

**EPA REGISTRATION NUMBER 524-445 – Vol. 10**

**FOR OFFICIAL USE ONLY**

FILE SYMBOL

524- uul

REGISTRATION NO.

524-445

**CONFIDENTIAL STATEMENT OF FORMULA ENCLOSED**

DATE SUBMITTED	SUBMITTED BY (✓)	
	APPLICANT	BASIC SUPPLIER
9-19-90		

**Do Not Write Comments,  
Formula, or Parts of Formula  
on This Envelope**

**NOTE**

It shall be unlawful—for any person to use for his own advantage or to reveal, other than to the Secretary, or officials or employees of the United States Department of Agriculture or other Federal agencies, or to the courts in response to a subpoena, or to physicians, and in emergencies to pharmacists and other qualified persons, for use in the preparation of antidotes, in accordance with such directions as the Secretary may prescribe, any information relative to formulas of products acquired by authority of Section 4 of the "Federal Insecticide, Fungicide, and Rodenticide Act."

RIN#910-02

EPA Registration File Jacket #524-445

Page     is not included in this copy.

Pages 2 through 16 are not included in this copy.

---

The material not included contains the following type of information:

- Identity of product inert ingredients.
- Identity of product inert impurities.
- Description of the product manufacturing process.
- Description of quality control procedures.
- Identity of the source of product ingredients.
- Sales or other commercial/financial information.
- A draft product label.
- ☒ The product confidential statement of formula.
- Information about a pending registration action.
- FIFRA registration data.
- The document is a duplicate of page(s)    .
- The document is not responsive to the request.

---

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

---


 United States  
 Environmental Protection Agency

 Office of Pesticide Programs (7505C)  
 Washington, DC 20460

287683

## Notice of Supplemental Distribution of a Registered Pesticide Product

## Instructions

After a registrant has obtained final registration for the basic product, the registrant may then supplementally distribute his/her product. One form must be submitted for each distributor product and must be signed by the distributor involved. The basic registration number and the distributor company number must be shown.

If a registrant has a potential distributor who does not have a company number assigned, she/he should have the distributor apply, on letterhead stationery, to the Registration Division to have a number assigned prior to submitting this form to the agency.

This Notice of Supplemental Distribution must be submitted by the basic registrant. The completed form must have the concurrence and signature of both the registrant and the distributor.

EPA Registration Number of Product

9 524-445 7

Distributor Company Number

7 34704

Note: Do not submit distributor product labels

Name of Registered Product (basic product name accepted by EPA)

 rtoncho ~~Herbicide~~  
 Supersate Herbicide

Distributor Product Name

Supersate Herbicide

Name and Address of Distributor (Type; include ZIP code)

 Platte Chemical Co.  
 419 18th St.  
 Greeley, CO 80631

## Read All Conditions Before Signing

1. The distributor product must have the same composition as the basic product.
2. The distributor product must be manufactured and packaged by the same person who manufactures and packages the registered basic product.
3. The labeling for the distributor product must bear the same claims as the basic product, provided, however, that specific claims may be deleted if by doing so, no other changes to the label are necessary.  
The product must remain in the manufacturer's unbroken container.
5. The label must bear the EPA registration number of the basic product, followed by a hyphen and the distributor's company number.
6. Distributor product labels must bear the name and address of the distributor qualified by such terms as "packed for...", "distributed by..."; or "sold by..." to show that the name is not that of the manufacturer.
7. All conditions of the basic registration apply equally to distributor products. It is the responsibility of the basic registrant to see that all distributor labeling is kept in compliance with requirements placed on the basic product.

## Distributor

We intend to market our product under the Distributor Product Name specified above, subject to the conditions specified on this notice.

Signature and Title of Distributor Glenda Haage

Date

Registration Mgr.

November 18, 02

## Registrant

I agree that the distributor named above may distribute and sell the Distributor Product specified above, subject to the conditions specified on this Notice.

Signature and Title of Registrant

Date

(Wratten) Manager Registrations

22-Nov-02

17

## Paperwork Reduction Act Notice

The annual respondent burden for the Notice of Supplemental Distribution of a Registered Pesticide Product is estimated to average 15 minutes per response, including time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information. Send comments regarding this burden, to Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460; and to Paperwork Reduction Project (OMB No. 2070-0044), Office of Management and Budget, Washington, DC 20503, Marked "Attention Desk Officer for EPA."





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

NOV 20 2002

Mr. Stephen J. Wratten  
Monsanto Company  
600 13<sup>th</sup> Street, N.W. Suite 660  
Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Original Herbicide (New Master Label with Industrial, Turf, and Ornamentals Added)  
EPA Registration No. 524-445  
Your Application Dated August 23, 2002

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable provided you make the following changes before you release the product for shipment.

1. On pages 6 & 87 revise the second sentence in your Environmental Hazards to read "Do not contaminate water when changing of equipment or disposing of equipment washwaters.
2. On pages 13 and 95, under "Swath Adjustment" replace "downward" with "downwind".
3. Add a statement similar to the following to your label where generic tank-mix partner names such as diuron or atrazine are listed: "This product may be tank-mixed with the following products provided the specific product is registered for use on this (these) sites.

Submit three (3) copies of your final printed labeling incorporating these changes before you release the product for shipment. Amended labeling supercedes all previously accepted ones. A stamped copy of labeling is enclosed for your records.

Sincerely,

*James A. Tompkins*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505C)

19

# MASTER LABEL FOR EPA REG. NO. 524-445

Registered Brand Names:

ROUNDUP ORIGINAL HERBICIDE  
ROUNDUP HERBICIDE  
RASCAL HERBICIDE  
MON 35085 HERBICIDE  
HONCHO HERBICIDE

Table of Contents for Master Label

I.	Main Label for Food Crop Uses	Pg. 2 of 125
II.	Supplemental Labeling for Food Crop Uses	Pg. 71 of 125
III.	Main Label for Industrial, Turf, & Ornamental Uses	Pg. 84 of 125
IV.	Supplemental Labeling for Industrial, Turf, & Ornamental Uses	Pg. 116 of 125

\*\*See each label part for more detailed table of contents\*\*



## I. MAIN LABEL FOR FOOD CROP USES

**[INSERT BRAND NAME]**

Herbicide

### Complete Directions for Use

EPA Reg. No. 524-445

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

Herbicide for Roundup Ready® Crops.

Selective broad-spectrum weed control in Roundup Ready crops. Non-selective, broad-spectrum weed control for many cropping systems, farmsteads and Conservation Reserve Program acres.

A member of the Roundup Family of Agricultural Herbicides by Monsanto

"The President's Green Chemistry Award was presented in 1996 to Monsanto for its innovative "zero-waste" process in the manufacture of Roundup Herbicide."

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the entire label before using this product.

Use only according to label instructions.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

#### Refillable Container Label Statement:

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. IT IS INTENDED THAT REPACKAGING BE ONLY IN ACCORDANCE WITH A MONSANTO REPACKAGING OR TOLL REPACKAGING AGREEMENT.

#### Non-refillable Container Label Statement:

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.

**CONTENTS**

- |          |            |   |
|----------|------------|---|
| <b>1</b> | <b>1.0</b> | <b>INGREDIENTS</b>                                |
| <b>2</b> | <b>2.0</b> | <b>IMPORTANT PHONE NUMBERS</b>                    |
| <b>3</b> | <b>3.0</b> | <b>PRECAUTIONARY STATEMENTS</b>                   |
|          | 3.1        | Hazards to Humans and Domestic Animals            |
|          | 3.2        | Environmental Hazards                             |
|          | 3.3        | Physical or Chemical Hazards                      |
| <b>4</b> | <b>4.0</b> | <b>STORAGE AND DISPOSAL</b>                       |
| <b>5</b> | <b>5.0</b> | <b>GENERAL INFORMATION</b>                        |
|          |            | (How This Product Works)                          |
| <b>6</b> | <b>6.0</b> | <b>MIXING</b>                                     |
|          | 6.1        | Mixing with Water                                 |
|          | 6.2        | Tank Mixing Procedure                             |
|          | 6.3        | Mixing for Hand-Held Sprayers                     |
|          | 6.4        | Surfactants                                       |
|          | 6.5        | Ammonium Sulfate                                  |
|          | 6.6        | Colorants or Dyes                                 |
|          | 6.7        | Drift Control Additives                           |
| <b>7</b> | <b>7.0</b> | <b>APPLICATION EQUIPMENT AND TECHNIQUES</b>       |
|          | 7.1        | Aerial Equipment                                  |
|          | 7.2        | Ground Broadcast Equipment                        |
|          | 7.3        | Hand-Held or High-Volume Equipment                |
|          | 7.4        | Selective Equipment                               |
|          | 7.5        | Injection Systems                                 |
|          | 7.6        | CDA Equipment                                     |
| <b>8</b> | <b>8.0</b> | <b>ANNUAL AND PERENNIAL CROPS (Alphabetical)</b>  |
|          | 8.1        | Cereal and Grain Crops                            |
|          | 8.2        | Corn  |
|          | 8.3        | Cotton  |
|          | 8.4        | Fallow Systems                                    |
|          | 8.5        | Grain Sorghum (Milo)                              |
|          | 8.6        | Herbs and Spices                                  |
|          | 8.7        | Oil Seed Crops                                    |
|          | 8.8        | Soybeans  |
|          | 8.9        | Sugarcane   |
|          | 8.10       | Vegetable Crops                                   |
|          | 8.11       | Miscellaneous Crops                               |
| <b>9</b> | <b>9.0</b> | <b>TREE, VINE, AND SHRUB CROPS (Alphabetical)</b> |
|          | 9.1        | Berry Crops                                       |
|          | 9.2        | Citrus  |
|          | 9.3        | Miscellaneous Tree Food Crops                     |
|          | 9.4        | Non-Food Tree Crops                               |

## I. MAIN LABEL FOR FOOD CROP USES

- 9.5 Pome Fruit
- 9.6 Stone Fruit
- 9.7 Tree Nuts
- 9.8 Tropical and Subtropical Trees and Fruits
- 9.9 Vine Crops
- 10 10.0 **PASTURE GRASSES, FORAGE LEGUMES, AND RANGELANDS**
  - 10.1 Alfalfa, Clover, and Other Forage Legumes
  - 10.2 Conservation Reserve program (CRP)
  - 10.3 Grass Seed Production
  - 10.4 Pastures
  - 10.5 Rangelands
  - 10.6 Turf Grass Sod Production
- 11 11.0 **ROUNDUP READY CROPS**
  - 11.1 Canola with the Roundup Ready Gene
  - 11.2 Corn with the Roundup Ready Gene
  - 11.3 Cotton with the Roundup Ready Gene
  - 11.4 Soybeans with the Roundup Ready Gene
  - 11.5 Sugar beets with the Roundup Ready Gene
- 12 12.0 **NON-CROP USES AROUND THE FARMSTEAD**
  - 12.1 General Weed Control and Trim-And-Edge
  - 12.2 Greenhouse/Shadehouse
  - 12.3 Chemical Mowing
  - 12.4 Cut Stumps
  - 12.5 Habitat Management
- 13 13.0 **ANNUAL WEEDS RATE TABLE**  
(Alphabetically by Species)
  - 13.1 Annual Weeds -- Rates for 10 to 40 GPA
  - 13.2 Annual Weeds -- Tank Mixtures with 2,4-D, Dicamba, or Tordon 22K
  - 13.3 Annual Weeds -- Hand-Held or High-Volume Equipment
  - 13.4 Annual Weeds - Tank Mixtures with Atrazine  
for Fallow and Reduced Tillage Systems
- 14 14.0 **PERENNIAL WEEDS RATE TABLE**  
(Alphabetically by Species)
- 15 15.0 **WOODY BRUSH AND TREES RATE TABLE**  
(Alphabetically by Species)
- 16 16.0 **LIMIT OF WARRANTY AND LIABILITY**

## 1.0 INGREDIENTS

### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt..... 41.0%

OTHER INGREDIENTS:..... 59.0%  
100.0%

## I. MAIN LABEL FOR FOOD CROP USES

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

No license granted under any non-U.S. patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT,  
CALL TOLL-FREE,

1-800-332-3111

2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL  
ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

(314)-694-4000

## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

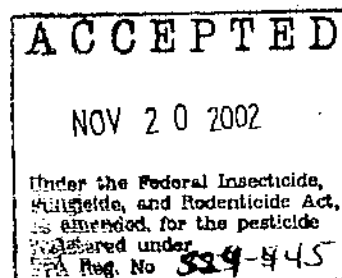
## WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY.  
HARMFUL IF SWALLOWED OR INHALED.

Do not get in eyes or on clothing.

Avoid breathing vapor or spray mist.



<b>FIRST AID:</b>	Call a poison control center or doctor for treatment advice.
<b>IF IN EYES</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.</li><li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li></ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"><li>• Remove individual to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.</li></ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"><li>• This product will cause gastrointestinal tract irritation. Immediately dilute by swallowing water or milk. Get medical attention. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.</li></ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. This product is identified as [INSERT BRAND NAME], EPA Registration No. 524-445. You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.	

## 1. MAIN LABEL FOR FOOD CROP USES

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

---

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, shoes plus socks, and protective eyewear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations:

Users should:

- \* Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- \* Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

## 3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

## 3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

**DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.** This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

---

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

## I. MAIN LABEL FOR FOOD CROP USES

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical resistant gloves (EPA Chemical Resistance Category A) 8 mils in thickness or greater composed of materials such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, shoes plus socks and protective eyewear.

### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

## 4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

See container label for STORAGE AND DISPOSAL instructions.

### Container Label Statements:

#### (FOR REFILLABLE PORTABLE CONTAINERS)

Do not reuse this container except for refill in accordance with a valid Monsanto Repackaging or Toll Repackaging Agreement. If not refilled or returned to the authorized repackaging facility, triple rinse

## I. MAIN LABEL FOR FOOD CROP USES

container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### (FOR BULK CONTAINERS)

Triple rinse emptied bulk container. Then offer for recycling or reconditioning, or dispose of in a manner approved by state and local authorities.

### (FOR PLASTIC 1-WAY CONTAINERS & BOTTLES)

Do not reuse container. Triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### (FOR DRUMS)

Do not reuse container. Return container per the Monsanto container return program. If not returned, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## 5.0 GENERAL INFORMATION

### (How This Product Works)

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS, PERENNIAL WEEDS AND WOODY BRUSH RATE TABLES" for recommendations for specific weeds.

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

## 1. MAIN LABEL FOR FOOD CROP USES

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

**Annual Maximum Use Rate:** Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts of this product per acre per year. For applications in non-crop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 10.6 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

## 6.0 MIXING

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

### 6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

### 6.2 Tank Mixing Procedure



## 1. MAIN LABEL FOR FOOD CROP USES

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20- to 35-mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If ammonium sulfate is used add it slowly through the screen into the tank. Continue agitation. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding other products.
4. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
5. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
7. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
8. If a nonionic surfactant is used, add it to the spray tank before completing the filling process.
9. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water-soluble liquid followed by surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "TANK MIXING" section of "GENERAL INFORMATION" for additional precautions.

### 6.3 Mixing for Hand-Held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

#### Spray Solution

Desired Volume	Amount of [INSERT BRAND NAME]					
	0.5%	1%	1.5%	2%	5%	10%
1 gal	0.7 oz	1.3 oz	2 oz	2.7 oz	6.5 oz	13 oz
25 gal	1 pt	1 qt	1.5 qt	2 qt	5 qt	10 qt
100 gal	2 qt	1 gal	1.5 gal	2 gal	5 gal	10 gal

## **I. MAIN LABEL FOR FOOD CROP USES**

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

### **6.4 Surfactants**

Nonionic surfactants (NIS) or wetting agents that are labeled for use with herbicides may be added to the spray solution. Do not reduce rates of this herbicide when adding surfactants. Read and carefully observe cautionary statements and other information appearing on the additives label.

When adding additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants that contain at least 70 percent active surfactant, or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active surfactant.

### **6.5 Ammonium Sulfate**

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, particularly under hard water conditions, drought conditions or when tank mixed with certain residual herbicides, on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides or surfactants. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance. The use of ammonium sulfate as an additive does not preclude the need for additional surfactant.

### **6.6 Colorants or Dyes**

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

### **6.7 Drift Control Additives**

Drift control additives may be used with all equipment types, except wiper applicators, sponge bars and Controlled Droplet Applicator (CDA) equipment. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label. The use of drift control additives can affect spray coverage which may result in reduced performance.

## **7.0 APPLICATION EQUIPMENT AND TECHNIQUES**

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

## I. MAIN LABEL FOR FOOD CROP USES

**Aerial--Fixed Wing and Helicopter**

**Ground Broadcast Spray--**Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held or High-Volume Spray Equipment--**Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective Equipment--**Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems--**Aerial or ground injection sprayers.

**Controlled Droplet Applicator (CDA)--**Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

### SPRAY DRIFT MANAGEMENT

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

#### 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1 quart per acre. Refer to the individual use area sections of this label for recommended volumes, application rates, and further instructions.

FOR AERIAL APPLICATION IN CALIFORNIA OR SPECIFIC COUNTIES THEREIN, OR ARKANSAS, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE OR COUNTY FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product plus dicamba tank mixtures may not be applied by air in California.

Ensure uniform application - To avoid streaked, uneven or overlapped application, use appropriate marking devices.

## I. MAIN LABEL FOR FOOD CROP USES

### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward, parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

#### Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

#### Controlling Droplet Size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length:** For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

#### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

#### Wind

## **I. MAIN LABEL FOR FOOD CROP USES**

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

### **Temperature and Humidity**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### **Temperature Inversions**

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **Sensitive areas**

The product should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

### **Aircraft Maintenance**

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

## **7.2 Ground Broadcast Equipment**

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat spray nozzles. Check for even distribution of spray droplets.

## **7.3 Hand-Held or High-Volume Equipment**

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only. For recommended rates and timing, refer to the "ANNUAL WEEDS -- HAND-HELD OR HIGH-VOLUME EQUIPMENT" section of this product label.

## I. MAIN LABEL FOR FOOD CROP USES

### 7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label.

In cropping systems, hooded sprayers, shielded sprayers, and wipers may be used in row middles (in between rows of crop plants) where any dripping or leaking will not contact crop foliage, when listed under "TYPES OF APPLICATION" in the crop sections of this product's labeling. Such equipment must be capable of preventing all crop contact with herbicide solutions and operated without leakage of spray mists or dripping onto crop. Wipers over-the-top of crops may be used only when specifically recommended in this product's labeling.

### AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

### Recirculating Spray System

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

### Shielded and Hooded Applicators

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at recommended rates will control those weeds listed in the "ANNUAL WEEDS RATE TABLE" and "PERENNIAL WEEDS RATE TABLE" sections of this label. A hooded sprayer is a type of shielded applicator where the spray pattern is fully enclosed including top, sides, front and back, thereby shielding the crop from the spray solution. Keep shields on these sprayers adjusted to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

Use hoods designed to minimize excessive dripping or run-off down the insides of the hoods. A single, low pressure/low drift flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top center of the hood is recommended. Spray volume should be 20-30 gallons per acre.

These procedures will reduce the potential for crop injury:

- The spray hoods must be operated on the ground or skimming across the ground.

## 1. MAIN LABEL FOR FOOD CROP USES

- Leave at least an 8 inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.
- Maximum tractor speed: 5 miles per hour to avoid bouncing of the spray hoods.
- Maximum wind speed: 10 miles per hour.
- Use low-drift nozzles that provide uniform coverage within the treated area.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

### Wiper Applicators

When applied under the conditions described in the following paragraphs, this product **CONTROLS** many weeds, including volunteer corn, Texas panicum, common rye, shattercane, sicklepod, spanishneedles and bristly starbur; and **SUPPRESSES** many weeds including Florida beggarweed, Bermudagrass, hemp dogbane, dogfennel, guineagrass, johnsongrass, milkweed, silverleaf nightshade, redroot pigweed, giant ragweed, smutgrass, sunflower, Canada thistle, musk thistle, vaseygrass, velvetleaf.

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators**—Solutions ranging from 33 to 75 percent of this product in water may be used. Apply this solution to weeds listed in this section.

**For Panel Applicators**—Solutions ranging from 33 to 100 percent of this product in water may be used in panel wiper applicators.

### 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

### 7.6 CDA Equipment

## I. MAIN LABEL FOR FOOD CROP USES

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

### 8.0 ANNUAL AND PERENNIAL CROPS (Alphabetical)

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED CROPS WITHIN SECTION 8 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.

See the "ROUNDUP READY CROPS" section of this label or separately published Monsanto Supplemental Labeling for instructions for treating Roundup Ready crops.

#### TYPES OF APPLICATIONS:

Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, At-Planting, Hooded Sprayers in Row-Middles, Shielded Sprayers in Row-Middles, Wiper Applications in Row-Middles, and Post-Harvest Treatments.

#### GENERAL USE INSTRUCTIONS:

Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergent to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed in this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the "ANNUAL WEEDS, PERENNIAL WEEDS, AND WOODY BRUSH RATE TABLES" in this label. Repeat applications may be made up to a maximum of 8 quarts per acre per year.

Post-directed hooded sprayers and wiper equipment capable of preventing all crop contact with herbicide solutions may be used in mulched or unmulched row middles after crop establishment. Where specifically noted below, wipers may also be used above certain crops to control tall weeds. Refer to the "SELECTIVE EQUIPMENT" section of this label for essential precautions when using hooded sprayers or wipers to avoid crop injury caused by leakage of spray mists or dripping onto crops. Crop injury is possible with these applications and shall be the sole responsibility of the applicator.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

#### GENERAL PRECAUTIONS, RESTRICTIONS:

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise



## I. MAIN LABEL FOR FOOD CROP USES

specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

In crops where spot treatments are allowed, do not treat more than 10 percent of the total field to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

### 8.1 Cereal and Grain Crops

**LABELED CROPS:** Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Quinoa, Teff, Teosinte, Triticale, Wheat (all types), Wild rice.

**PRECAUTIONS, RESTRICTIONS:** Do not treat rice fields or levees when field contains water.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Red Rice Control Prior to Planting Rice, Spot Treatment (except rice), Over-the-Top Wiper Applicators (Feed Barley and Wheat Only), Preharvest (Feed Barley and Wheat Only).

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

#### Red Rice Control Prior to Planting Rice

**USE INSTRUCTIONS:** Apply 1.5 quarts of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are in the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

**PRECAUTIONS, RESTRICTIONS:** Avoid spraying during low humidity conditions, as reduced control may result. Do not treat rice fields or levees when the fields contain floodwater. Do not re-flood treated fields for 8 days following application.

#### Spot Treatment (Except Rice)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### Over-the-Top Wiper Applicators (Feed Barley and Wheat Only)

**USE INSTRUCTIONS:** Wiper applications may be used in wheat and feed barley. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, and when the rye is at least 6 inches above the wheat crop.

## I. MAIN LABEL FOR FOOD CROP USES

**PRECAUTIONS, RESTRICTIONS:** Allow at least 35 days between application and harvest. Do not use roller applicators.

### Preharvest (Feed Barley and Wheat Only)

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of wheat or feed barley. For wheat, apply after the hard-dough stage of grain (30 percent or less grain moisture). For feed barley, apply after the hard-dough stage and when the grain contains 20 percent moisture or less. Stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 1 quart of this product per acre. Allow 7 days between application and harvest, feeding, or grazing. Preharvest application is not recommended for wheat or barley grown for seed, as a reduction in germination or vigor may occur.

### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 8.2 Corn

**TYPES OF CORN:** Field corn, Seed corn, Silage corn, Sweet corn and Popcorn.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Preharvest. For Roundup Ready corn, see the "ROUNDUP READY CROPS" section of this label.

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting corn. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

2,4-D	Distinct™	Lariat®
Atrazine	Dual Magnum™	Lasso®/Alachlor
Axiom™	Dual II Magnum™	Linex™/Lorox™
Balance™	Epic™	Marksman™
Banvel™/Clarity™	Frontier™/Outlook™	Micro-Tech®
Bicep Magnum™	FulTime™	Prowl™
Bicep II Magnum™	Guardsman™/Leadoff™	Python™
Bullet®	Harness®	Simazine
Degree®	Harness Xtra	Topnotch™
Degree Xtra®	Harness Xtra 5.6L	

## I. MAIN LABEL FOR FOOD CROP USES

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, use rate may need to be increased for acceptable weed control.

**PRECAUTIONS, RESTRICTIONS:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn.

For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. The area covered by this recommendation includes from Route 50 South in Illinois and Indiana and the following states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

### **Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not apply more than 1 quart of this product per acre for each application and no more than 3 quarts per acre per year for hooded sprayer applications.

### **Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to silking of corn.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### **Preharvest**

**USE INSTRUCTIONS:** Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 3 quarts of this product per acre. For aerial applications, apply up to 2 quarts of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest, feeding or grazing. Preharvest application is not recommended for corn grown for seed, as a reduction in germination or vigor may occur.

### **Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## I. MAIN LABEL FOR FOOD CROP USES

### 8.3 Cotton

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Selective equipment, Spot Treatment, Preharvest.

For Roundup Ready cotton, see the "ROUNDUP READY CROPS" section of this label.

#### **Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in tank-mixture, before, during or after planting cotton. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water per acre.

Caparol®	Direx	Prowl
Clarity	Dual Magnum	Staple®
Command	Dual II Magnum	Zorial®
Cotoran®	Karmex	2,4-D
Cotton-Pro®	Meturon®	

**PRECAUTIONS/RESTRICTIONS:** Refer to individual product labels for rates, restrictions, precautionary statements and preplant intervals.

#### **Hooded Sprayer, Selective Equipment**

**USE INSTRUCTIONS:** This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

#### **Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to boll opening of cotton.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### **Preharvest**

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the "ANNUAL, PERENNIAL and WOODY BRUSH WEED CONTROL TABLE" sections of this label. For cotton regrowth inhibition, apply 1 pint to 2 quarts of this product per acre.

Up to 2 quarts of this product may be applied using either aerial or ground spray equipment. Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank mixed with Def™ 6, Folex™, Ginstar, or Prep™ to provide additional enhancement of cotton leaf drop.

## 1. MAIN LABEL FOR FOOD CROP USES

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Preharvest application is not recommended for cotton grown for seed, as a reduction in germination or vigor may occur. **THE USE OF ADDITIVES FOR PREHARVEST APPLICATION OF THIS PRODUCT TO COTTON IS PROHIBITED.**

### 8:4 Fallow Systems

**LABELED CROPS:** This product may be applied during the fallow period prior to planting or emergence of any crop on this label.

**TYPES OF APPLICATIONS:** Chemical fallow, Preplant fallow beds, Aid-to-tillage.

#### Chemical Fallow

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used. Applications up to 2 quarts per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting. Do not apply dicamba tank mixtures by air in California.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if dicamba is applied within 45 days of planting.

#### Preplant Fallow Beds

**USE INSTRUCTIONS:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the "ANNUAL, PERENNIAL and WOODY BRUSH WEED CONTROL TABLE" sections of this label.

**TANK MIXTURES:** In addition, 12 fluid ounces of this product plus 2 to 3 fluid ounces of Goal™ 2XL per acre will control the following weeds with the maximum height or length indicated: 3" -- common cheeseweed, chickweed, groundsel; 6" -- London rocket, shepherd's-purse.

16 fluid ounces of this product plus 2 to 3 fluid ounces of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6" -- common cheeseweed, groundsel, marestail (*Conyza canadensis*), 12" -- chickweed, London rocket, shepherd's-purse.

#### Aid-to-Tillage

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 12 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with residual herbicides may result in reduced performance.

## I. MAIN LABEL FOR FOOD CROP USES

### 8.5 Grain Sorghum (Milo)

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: Spot Treatment, Over-the-Top Wiper Applicators, Preharvest.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in tank mixture before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

Atrazine	Lariat
Bicep II Magnum	Lasso
Bullet	Micro-Tech
Dual II Magnum	

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased for acceptable weed control.

#### Spot Treatment and Over-the-Top Wiper Applications

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

#### Hooded Sprayers

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of milo. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

**PRECAUTIONS, RESTRICTIONS:** Milo must be at least 12 inches tall, measured without extending leaves. Treat before milo sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more

## I. MAIN LABEL FOR FOOD CROP USES

than 1 quart of this product per acre per application and no more than 3 quarts per acre per year for hooded sprayer applications.

### Preharvest

USE INSTRUCTIONS: Make applications at 30 percent grain moisture or less.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 2 quarts of this product per acre. As with other herbicides that cause sudden plant death, avoid preharvest applications of this product to milo infected with charcoal rot as lodging can occur. Allow a minimum of 7 days between application and harvest, feeding, or grazing of sorghum. Preharvest application is not recommended for sorghum grown for seed, as a reduction in germination or vigor may occur. The use of this product for preharvest grain sorghum (milo) is not registered in California

### Post-Harvest

USE INSTRUCTIONS: This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of this product per acre for control, or 1.5 pints of this product per acre for suppression.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 8.6 Herbs and Spices

LABELLED CROPS: Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

TYPES OF APPLICATIONS: Those listed in Section 8.0 plus the following: Over-the-Top Wiper Applications (Peppermint and Spearmint Only), Spot Treatments (Peppermint and Spearmint Only).

PRECAUTIONS, RESTRICTIONS: When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the water flushes off the plastic mulch and does not enter the transplant holes. For some crops below, it is recommended to make applications 3 days before transplanting or planting.

### Over-the-Top Wiper Applications or Spot Treatments (Peppermint and Spearmint Only)

USE INSTRUCTIONS: This product may be used as a spot treatment or wiper application in spearmint and peppermint. Apply spot treatments on a spray-to-wet basis with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, hand-guns, hand-wands or any other hand-held or motorized

## I. MAIN LABEL FOR FOOD CROP USES

spray equipment used to direct the spray solution to a limited area. In wiper applications, the applicator should be adjusted so that the wiper contact point is at least 2 inches above the crop. Weeds should be a minimum of 6 inches taller than the crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. In spot treatment applications, no more than 10 percent of the total field area to be harvested should be treated at one time. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason. In wiper applications, contact of the herbicide solution with the crop may result in damage or destruction.

### 8.7 Oil Seed Crops

**LABELED CROPS:** Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower.

For Roundup Ready canola, see the "ROUNDUP READY CROPS" section of this label.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0.

**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops. Broadcast applications must be made prior to emergence of the listed oil seed crops. Wiper applicators or hooded sprayers may be used between the rows once the crop is established.

**TANK MIXTURES:** For sunflowers, a tank mixture with Prowl may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 2 quarts of this product per acre on canola. Do not apply more than 1 quart of this product per acre for sunflowers as a single preplant or preemergent application per year. Do not feed or graze sunflower forage following application of this product.

### 8.8 Soybeans

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: spot treatment, preharvest, selective equipment.

For Roundup Ready soybeans, see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water per acre.

Aim™	Dual II Magnum	Micro-Tech
Amplify™	Firstrate™	Prowl
Assure II™	Flexstar™	Pursuit™
Authority™	Frontier™/Outlook™	Pursuit Plus
Boundary™	Fusion™	Reflex™
Canopy™	Gauntlet™	Scepter™
Canopy Xl™	Lasso	Sencor™/Lexone™
Command™	Linex™	Squadron™
Command Xtra™	Lorox/Linuron	Steel™
Domain™	Lorox Plus™	Valor™
Dual Magnum		



## I. MAIN LABEL FOR FOOD CROP USES

This product may be tank mixed with 2,4-D or 2,4-DB. See the 2,4-D label for intervals between application and planting.

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with some of the above listed herbicides may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

### Spot Treatment

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to initial pod set in soybeans.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### Preharvest

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans.

Apply at rates given in the "ANNUAL WEEDS, PERENNIAL WEEDS AND WOODY BRUSH RATE TABLES". This product may be applied using either aerial or ground spray equipment. Apply after pods have set and lost all green color. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 5 quarts per acre of this product for preharvest applications. Do not apply more than 2 quarts per acre of this product by air. Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated hay or fodder for livestock feed within 25 days of last preharvest application. (If the application rate is 1 quart per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.) Preharvest application is not recommended for soybeans grown for seed, as a reduction in germination or vigor may occur.

### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, over-the-top wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

### 8.9 Sugarcane

**TYPES OF APPLICATIONS:** Those listed in Section 8.0.

### Preplant, Preemergence, At-Planting

## I. MAIN LABEL FOR FOOD CROP USES

**USE INSTRUCTIONS:** This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

**PRECAUTIONS, RESTRICTIONS:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1 percent solution of this product in water and spray-to-wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

### Fallow Treatments

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Ground or aerial application equipment may be used. Applications up to 3 quarts per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

### Hooded Sprayers

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of sugarcane. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional use instructions.

**PRECAUTIONS, RESTRICTIONS:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

## 8.10 Vegetable Crops

**NOTE:** THIS "VEGETABLE CROPS" SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED VEGETABLE CROPS WITHIN SECTION 8.10 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, Prior to Transplanting Vegetables, At-Planting, Hooded Sprayers in Row-Middles, Shielded Sprayers in Row-Middles, Wiper Applications in Row-Middles, and Post-Harvest, Directed Applications (Non-bearing Ginseng), Over-the-Top Wiper Applications (Rutabagas Only).

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the water flushes off the plastic mulch and does not enter the transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

## I. MAIN LABEL FOR FOOD CROP USES

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings. In crops with vines, hooded sprayer, shielded sprayer, and wiper application to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

### 8.10.1 Brassica Vegetables

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lon), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

### 8.10.2 Bulb Vegetables

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot.

### 8.10.3 Cucurbit Vegetables and Fruits

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra); Melons (all), *Momordica* spp (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

**PRECAUTIONS, RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

### 8.10.4 Leafy Vegetables

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (roquette), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach.

**PRECAUTIONS, RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of injury.

### 8.10.5 Fruiting Vegetables

## 1. MAIN LABEL FOR FOOD CROP USES

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis spp*), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

**PRECAUTIONS, RESTRICTIONS:** For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For tomato, hooded or shielded sprayer applications in row middles are not recommended.

### 8.10.6 Legume Vegetables (Succulent or Dried)

**LABELED CROPS:** Bean (*Lupinus*: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*: includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

### 8.10.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam.

#### Directed Applications (Non-bearing Ginseng Only)

**USE INSTRUCTIONS:** This product may be used for general weed control in established non-bearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high volume wands, lances, and orchard guns or with wiper application equipment.

**PRECAUTIONS, RESTRICTIONS:** Direct applications so that there is no contact of this product with the ginseng plant. Applications must be made at least one year prior to harvest.

#### Over-the-Top Wiper Applications (Rutabagas Only)

**USE INSTRUCTIONS:** Wiper applicators may be used over-the-top of rutabagas.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas.

### 8.11 Miscellaneous Crops

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet.

**TYPES OF APPLICATIONS:** Those listed in Section 8.0 plus the following: General weed control, Site preparation, Spot Treatment (Asparagus).

For Roundup Ready sugar beets, see the "ROUNDUP READY CROPS" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made

## I. MAIN LABEL FOR FOOD CROP USES

before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings. In crops with vines, hooded sprayer, shielded sprayer, and wiper application to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

### General Weed Control, Site Preparation

**USE INSTRUCTIONS:** This product may be applied for general weed control or for site preparation prior to planting or transplanting crops listed in this section.

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care should be taken to ensure that the water flushes off the plastic mulch and does not enter the transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

### Spot Treatment (Asparagus)

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

### Post-Harvest (Asparagus)

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence post-harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

## 9.0 TREE, VINE, AND SHRUB CROPS (Alphabetical)

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL LISTED TREE, VINE, AND SHRUB CROPS WITHIN SECTION 9 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Preplant (Site Preparation) Broadcast Sprays, General Weed Control, Middles (between rows of trees, vines or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (Shielded Sprayers, Wiper Applications), Directed Sprays, Spot Treatments, Perennial Grass Suppression, Cut Stump.

## 1. MAIN LABEL FOR FOOD CROP USES

Applications may be made with boom equipment, CDA equipment, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

### GENERAL USE INSTRUCTIONS:

This product may be applied in middles (between rows of trees or vines), strips (within rows of trees or vines), and for general weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries, and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 1 pint to 5 quarts per acre according to the "ANNUAL and PERENNIAL WEEDS RATE TABLES" sections of this label. Utilize rates at the higher end of the recommended rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

### GENERAL PRECAUTIONS, RESTRICTIONS:

Extreme care must be exercised to avoid contact of herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes and vines. Avoid applications when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction. Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. For applications in strips (within rows of trees), only selective equipment (directed sprays, hooded sprayers, shielded applicators, or wipers) should be used to minimize the potential for leakage or drift of herbicide sprays onto crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Only wipers or shielded applicators capable of preventing all contact with crop may be used. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional directions and precautions.

Allow a minimum of 3 days between application and transplanting.

#### Middles (between rows)

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

**TANK MIXTURES:** A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. 16 to 32 fluid ounces per acre of this product plus 3 to 12 fluid ounces per acre of Goal 2XL will control common cheeseweed (malva) or hairy fleabane (*Conyza bonariensis*) with a maximum height or diameter of 3 inches, and annual weeds with a maximum height or diameter of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's-purse, annual sowthistle, filaree (suppression), horseweed/marestail (*Conyza canadensis*), stinging nettle and common purslane (suppression).

#### Strips (in rows)

**TANK MIXTURES:** This product may be applied in rows of tree or vine crops in tank mixtures with the following products:

Devrinol™ 50 DF  
Direx™ 4L

Simazine 4L  
Simazine 80W

## I. MAIN LABEL FOR FOOD CROP USES

Goal 2XL  
Karmex DF  
Krovar I  
Prowl  
Princep Caliber™90

Sim-Trol™ 4L  
Solican™ DF  
Surflan™ AS  
Surflan 75W

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

### Perennial Grass Suppression

This product will suppress perennial grasses such as bahiagrass, Bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of Bermudagrass, apply 1 to 2 quarts of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the Bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of Bermudagrass, apply 6 to 16 fluid ounces of this product per acre east of the Rocky Mountains and 16 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the Bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and Bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 6 to 10 fluid ounces of this product per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

### Cut Stump (Tree Crops)

**USE INSTRUCTIONS:** Cut stump applications of this product may be made during site preparation or site renovation, prior to transplanting tree crops. This product will control regrowth of cut stumps and resprouts of many types of tree species, some of which are listed below.

Citrus Trees: Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (all), Pummelo, Tangelo, Tangor.

## I. MAIN LABEL FOR FOOD CROP USES

Fruit Trees: Apple, Apricot, Cherry (sweet, sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince.

Nut Trees: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (black, English).

Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

**PRECAUTIONS, RESTRICTIONS:** DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

### 9.1 Berry Crops

**LABELED CROPS:** Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, and youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, Raspberry (black, red), Salal.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Spot Treatment in Cranberry Production and Post Harvest Treatments in Cranberry Production.

**PRECAUTIONS, RESTRICTIONS:** To avoid damage, herbicide sprays must not be allowed to contact desirable vegetation, including green shoots, canes, or foliage. Allow a minimum of 30 days between last application and harvest in cranberries. Allow a minimum of 14 days between last application and harvest in other berry crops. Do not make directed sprays within the cranberry bush areas prior to berry harvest.

#### Spot Treatment in Cranberry Production

**USE INSTRUCTIONS:** Spot treatments may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Hand-held sprayers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. Drop water level to remove standing water in ditches prior to application. In hand-held sprayers, use 1 to 2 percent solution of this product. Spray to wet vegetation, not to run-off.

**PRECAUTIONS, RESTRICTIONS:** For treatments after draw down of water in dry ditches, allow 2 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after draw down to ensure application to actively growing weeds. Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply this material through the irrigation system. Do not make applications by air. Do not apply directly to water. Use nozzles that emit medium- to large-sized droplets to minimize drift in order to avoid crop injury.

#### Post-Harvest Treatments in Cranberry Production

**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing within the field. Best results will be obtained if applications are made to vines that appear



## I. MAIN LABEL FOR FOOD CROP USES

dormant (after they have turned red). Hand-held sprayers, wipers, or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. If using hand-held sprayers, use a 0.5 to 1 percent solution of this product. Spray to wet vegetation, not to run-off. If using hand-held boom sprayers, apply 2 to 4 quarts of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Make applications only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months after last application and next harvest of cranberries. Do not apply this product through the irrigation system. Do not make applications by air. Do not apply directly to water. Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

### 9.2 Citrus

**LABELED CROPS:** Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (all), Pummelo, Satsuma Mandarin, Tangelo (ugli), Tangor.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**USE INSTRUCTIONS:** (The recommendations below pertain to applications in Florida and Texas)  
For burndown or control of the weeds listed below, apply the recommended rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 2 to 3 quarts of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar™ I or Karmex™ may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

#### Perennial weeds:

S = Suppression

PC = Partial control

B = Burndown

C = Control

WEED SPECIES	[INSERT BRAND NAME] RATE PER ACRE			
	1 QT	2 QT	3 QT	5 QT
Bermudagrass	B	--	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	--	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	--	PC	C

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in citrus crops. For citron groves, apply as directed sprays only.

### 9.3 Miscellaneous Tree Food Crops

**LABELED CROPS:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil).

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

## 1. MAIN LABEL FOR FOOD CROP USES

### 9.4 Non-Food Tree Crops

**LABELED CROPS:** Pine, Poplar, Eucalyptus, Christmas Trees, Other non-food tree crops.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

#### **Directed Sprays, Spot Treatment, Wiper Applications**

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment around established poplar, eucalyptus, Christmas trees and other non-food tree crops.

**PRECAUTIONS, RESTRICTIONS:** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. **UNLESS OTHERWISE DIRECTED, THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN CHRISTMAS TREES AND OTHER PINE TREES.**

#### **Site Preparation**

**USE INSTRUCTIONS:** This product may be used prior to planting Christmas trees.

**PRECAUTIONS, RESTRICTIONS:** Precautions should be taken to protect nontarget plants during site preparation applications.

### 9.5 Pome Fruit

**LABELED CROPS:** Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in pome crops.

### 9.6 Stone Fruit

**LABELED CROPS:** Apricot, Cherry (sweet, tart), Nectarine, Olive, Peach, Plum/Prune (all types), Plumcot.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 17 days between last application and harvest in stone fruit crops. For olive groves, apply as directed sprays only.

#### **Restrictions on Application Equipment**

For cherries, any application equipment listed in this section may be used in all states.

Any application equipment listed in this section may be used in apricots, nectarines, peaches and plums/prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah and Washington, except for peaches grown in the states specified in the following paragraph. In all other states, use wiper equipment only.

## I. MAIN LABEL FOR FOOD CROP USES

For PEACHES grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator, which prevents any contact of this product with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees that have been planted in the orchard for 2 or more years. **EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.**

### 9.7 Tree Nuts

**LABELED CROPS:** Almond, Beechnut, Betelnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, Filbert (hazelnut), Hickory nut, Macadamia, Pecan, Pine nut, Pistachio, Walnut (black, English).

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Allow 14 days between application and harvest in coconut.

### 9.8 Tropical and Subtropical Trees and Fruits

**LABELED CROPS:** Ambarella, Atemoya, Avocado, Banana, Barbados cherry (acerola), Biriba, Blimbe, Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Custard apple, Dates, Durian, Feijoa, Figs, Governor's plum, Guava, Ilama, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosteen, Marmaladebox (genip), Mountain papaya, Papaya, Pawpaw, Plantain, Persimmon, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Spanish lime, Soursop, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots and leaves), Wax jambu.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Bananacide (banana only).

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in banana, guava, papaya, and plantain crops. Allow a minimum of 14 days between last application and harvest for any other tropical or subtropical tree fruit. Allow a minimum of 28 days between last application and harvest in coffee crops. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

#### Bananacide (Banana Only)

**USE INSTRUCTIONS:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus as well as non-infected banana plants to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 0.04 fluid ounce (1 mL) of this product's concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above the ground, except for very small plants, which should be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) adjacent (within a 4-foot radius) to a treated mat shall be mechanically destroyed.

For control of the Banana Bunchy Top Virus, it is critical that the grower follow a strict control program involving monitoring for diseased plants, spraying to control the aphid vector, and destruction of all infected mats (or units). An infected plant may not show symptoms of the banana bunchy top virus for up to 125 days, therefore it is critical that the entire mat (or unit) containing the diseased plant be destroyed immediately.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 0.5 fluid ounce (15 mL) of this product's concentrate per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to

## **I. MAIN LABEL FOR FOOD CROP USES**

consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for general weed control.

### **9.9 Vine Crops**

**LABELED CROPS:** Grapes (juice, raisin, table, wine), Hops, Kiwi, Passion fruit.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0.

Applications should not be made when green shoots, canes or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest in vine crops. Do not use selective equipment in kiwi.

## **10.0 PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS**

### **10.1 Alfalfa, Clover, and Other Forage Legumes**

**LABELED CROPS:** Alfalfa, Clover, Kenaf, Kudzu, Lespedeza, Leucaena, Lupin, Sainfoin, Trefoil, Velvet bean, Vetch (all types).

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-planting, Spot Treatment (Alfalfa and Clover Only), Over-the-Top Wiper Applicators (Alfalfa and Clover Only), Renovation, Preharvest (Alfalfa Only).

#### **Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting crops listed in this section. Applications must be made prior to emergence of the crop.

**PRECAUTIONS, RESTRICTIONS:** If a single application is made at rates of 2 quarts per acre or less, no waiting period between treatment and feeding or grazing is required. If application rates greater than 2 quarts per acre are made, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### **Preharvest (Alfalfa Only)**

**USE INSTRUCTIONS:** This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This application will severely injure or destroy the stand of alfalfa. This product will control annual and perennial weeds, including quackgrass, when applied prior to the harvest of alfalfa. The treated crop and weeds can be harvested and fed to livestock after 36 hours. Allow a minimum of 36 hours between application and harvest. Applications may be made at any time of the year. Make only one application to an existing stand of alfalfa per year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 2 quarts of this product per acre as a preharvest treatment. Preharvest application is not recommended for alfalfa grown for seed, as a reduction in germination or vigor may occur.

## **1. MAIN LABEL FOR FOOD CROP USES**

### **Spot Treatment, Over-the-Top Wiper Applications (Alfalfa and Clover Only)**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in alfalfa or clover. This product may be applied with wiper applicators to control or suppress the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 10 percent of the total field area should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

### **Renovation**

**USE INSTRUCTIONS:** This product may be applied as a broadcast spray to renovate existing stands of alfalfa, clover, and other labeled forage legumes. Labeled crops may be planted into the treated area.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application. If application rates of 2 quarts per acre or less are used wait 36 hours after application before grazing or harvesting. If application rates greater than 2 quarts per acre are used, wait 8 weeks between applications and grazing or harvesting.

## **10.2 Conservation Reserve Program (CRP)**

**TYPES OF APPLICATIONS:** Renovation (rotating out of CRP), Site preparation, Postemergence weed control in dormant CRP grasses, Wiper applications.

### **Renovation (Rotating Out of CRP), Site Preparation**

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production. Refer to Federal, state or local use guides for CRP renovation recommendations.

### **Postemergence Weed Control in Dormant CRP Grasses, Wiper Applications**

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant.

## **10.3 Grass Seed Production**

**LABELED CROPS:** Any grass (*Gramineae* family) except corn, sorghum, sugarcane and those listed above under "CEREAL CROPS".

**TYPES OF APPLICATIONS:** Preplant, Preemergence, Renovation, Site Preparation, Shielded Sprayers, Wiper Applications, Spot Treatments, Creating Rows in Annual Ryegrass.

### **Preplant, Preemergence, Renovation**

## **I. MAIN LABEL FOR FOOD CROP USES**

**USE INSTRUCTIONS:** This product may be applied before, during, or after planting or for renovation of turf or forage grass areas grown for seed production. Applications must be made prior to the emergence of the crop to avoid crop injury. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as Bermudagrass, summer or fall applications provide best control.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

Do not feed or graze treated areas for 8 weeks following application.

### **Shielded Sprayers**

**USE INSTRUCTIONS:** Apply 1 to 3 quarts of this product as a broadcast spray in 10 to 20 gallons of water per acre to control weeds in the rows. Uniform planting in straight rows aid in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by or through the protective shields.

**PRECAUTIONS, RESTRICTIONS:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

### **Wiper Applications**

**PRECAUTIONS, RESTRICTIONS:** Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators should be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation. Weeds should be a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when height of weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. Better results may be obtained if 2 applications are made in opposite directions.

### **Spot Treatments**

**USE INSTRUCTIONS:** Use a 1- to 1.5-percent solution.

**PRECAUTIONS, RESTRICTIONS:** Apply this product prior to heading of grasses. Do not treat more than 10 percent of the total field area. The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

### **Creating Rows in Annual Ryegrass**

**USE INSTRUCTIONS:** Use 16 to 32 fluid ounces of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

**PRECAUTIONS, RESTRICTIONS:** Set nozzle heights to allow the establishment of the desired row spacing while preventing spray droplets, spray fines, or drift to contact the ryegrass plants not treated. Use of low-pressure nozzles, or drop nozzles designed to target the application over a narrow band are recommended.

**Grower assumes all responsibility for crop losses from misapplication.**

## I. MAIN LABEL FOR FOOD CROP USES

### 10.4 Pastures

**LABELED CROPS:** Any grass (*Gramineae* family) except corn, sorghum, sugarcane and those listed above under "CEREAL CROPS". Including Bahiagrass, Bermudagrass, Bluegrass, Bromegrass, Fescue, Guinea grass, Kikuyu grass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass.

**TYPES OF APPLICATIONS:** Spot Treatment, Over-the-Top Wiper Application, Preplant, Preemergence, Pasture Renovation.

#### Spot Treatment, Over-the-Top Wiper Application

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 10 percent of the total pasture area should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

#### Preplant, Preemergence, Pasture Renovation

**USE INSTRUCTIONS:** This product may be applied prior to planting or emergence of forage grasses. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

### 10.5 Rangelands

**TYPES OF APPLICATIONS:** Postemergence.

**USE INSTRUCTIONS:** This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands.

Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds.

Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

#### Postemergence

Apply 12 to 16 fluid ounces of this product to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most mature brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible, and recommended, where spring moisture is usually limited and fall germination allows for good weed growth.

For medusahead, apply 16 fluid ounces of this product at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Fire may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands.

## **I. MAIN LABEL FOR FOOD CROP USES**

Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off.

**PRECAUTIONS, RESTRICTIONS:** Do not use ammonium sulfate when spraying rangeland grasses with this product. Do not make more than one application per year.

### **10.6 Turf Grass Sod Production**

**TYPES OF APPLICATIONS:** Preplant, Preemergence, Renovation, Site Preparation, Spot Treatments.

#### **Preplant, Preemergence, Renovation, Site Preparation**

**USE INSTRUCTIONS:** This product controls most existing vegetation prior to renovating turf grass areas or establishing turf grass grown for seed or sod. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. For warm-season grasses such as Bermudagrass, summer or fall applications provide the best control.

Desirable turf grasses may be planted following the above procedures.

#### **PRECAUTIONS, RESTRICTIONS:**

Do not feed or graze turf grass grown for seed or sod production for 8 weeks following application.

#### **Spot Treatments**

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turf grass.

## **11.0 ROUNDUP READY CROPS**

The following instructions or those separately published on Monsanto Supplemental labeling include all applications which can be made onto the specified Roundup Ready crops during the complete cropping season. Do NOT combine these instructions with other recommendations made for crop varieties that do not contain the Roundup Ready gene, in the "ANNUAL AND PERENNIAL CROPS (ALPHABETICAL)" section of this label.

**MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROP VARIETIES DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.**

Applying this product to crop varieties that are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the crop variety contains a patented gene that provides tolerance to this product. Information on Roundup Ready crop varieties may be obtained from your seed supplier or Monsanto representative. Roundup Ready crop varieties must be purchased from an authorized licensed seed supplier.

**NOTE:** Roundup Ready seed, and the method of selectively controlling weeds using glyphosate on a Roundup Ready crop, are protected under several U.S. Patents, including 5,352,605 and 5,633,435. A license to use Roundup Ready seed must be obtained prior to use. Monsanto retains ownership of the gene and process technologies, and the Purchaser of the seed receives the right to use the licensed genes and



## L MAIN LABEL FOR FOOD CROP USES

technologies subject to the limited use license conditions. Seed containing the Roundup Ready trait cannot be used for research and demonstration, reverse engineering or in connection with herbicide registration. Progeny seed containing the Roundup Ready trait cannot be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

For ground applications with broadcast equipment, apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment use flat spray nozzles. Check for even distribution of spray droplets.

For aerial applications, apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

For proper stewardship of aerial applications over-the-top of Roundup Ready crops, Monsanto recommends that growers and applicators read and follow all precautions and procedures contained in the use guide "A Guide to On-Target Aerial Application" available by calling 1-800-ROUNDUP (1-800-768-6387) or on the internet at [www.FARMSOURCE.com](http://www.FARMSOURCE.com).

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.**

See the "MIXING and APPLICATION EQUIPMENT AND TECHNIQUES" sections of this label for additional directions and restrictions on the application of this product.

Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury and are NOT recommended for over-the-top applications of this product unless otherwise noted in this product label, supplemental labeling or fact sheets published separately by Monsanto.

Unless otherwise directed, nonionic surfactant may be added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Read and carefully observe cautionary statements and other information appearing on the surfactant label.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready crops. Refer to the "MIXING" section for use instructions for ammonium sulfate.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product. Follow the cleaning procedures specified on the label of the product(s) previously used. **THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.**

**NOTE:** The following recommendations are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burn-down treatment of this product is recommended to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcumber, and giant ragweed with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application should be made after some regrowth has occurred and at least 10 days after a previous application of this product.

## 1. MAIN LABEL FOR FOOD CROP USES

### 11.1 Canola with the Roundup Ready Gene

TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence, Postemergence

**DO NOT USE THIS PRODUCT ON CANOLA WITH THE ROUNDUP READY GENE PLANTED IN THE FOLLOWING STATES: ALABAMA, DELAWARE, FLORIDA, GEORGIA, KENTUCKY, MARYLAND, NEW JERSEY, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA AND WEST VIRGINIA.**

**THE USE OF THIS PRODUCT FOR IN-CROP APPLICATIONS OVER ROUNDUP READY CANOLA MAY NOT BE PRACTICED IN CALIFORNIA UNLESS THE APPLICATOR HAS AT THE TIME OF APPLICATION A CALIFORNIA-APPROVED SUPPLEMENTAL LABEL SPECIFYING THE ACCEPTED DIRECTION FOR USE.**

NOTE: The use of this product for in-crop applications over Roundup Ready canola may not be practiced in California unless the applicator has at the time of application a California-approved Supplemental Label specifying the accepted Directions for Use.

<u>Maximum Allowable Combined Application Quantities Per Season</u>	
Preplant, At-planting, Preemergence applications	2 quarts per acre
Total in-crop application from emergence to 6-leaf stage	2 quarts per acre

#### **Preplant, Preemergence, At-Planting.**

USE INSTRUCTIONS: This product may be applied before, during or after planting canola.

#### **Postemergence**

USE INSTRUCTIONS: This product may be applied postemergence to Roundup Ready canola from emergence through the 6-leaf stage of development. Applications made during bolting or flowering may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

Weeds Controlled: For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and PERENNIAL WEEDS RATE TABLES" in this booklet.

Single Application - Apply 16 to 32 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications that may result in temporary yellowing, delayed flowering, and or growth reduction. Similar injury may result when applications of more than 16 fluid ounces per acre are applied after the 4-leaf stage.

Sequential Application - Apply 32 fluid ounces per acre to 1- to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are recommended for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass or when controlling weeds with multiple application times.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. No more than two over-the-top broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application should not exceed 64 fluid ounces per acre. Allow a minimum of 60 days between last application and canola harvest.

### 11.2 Corn with the Roundup Ready Gene

## I. MAIN LABEL FOR FOOD CROP USES

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence (In-Crop), Spot Treatment, Preharvest, Post-Harvest.

<u>Maximum Allowable Combined Application Quantities Per Season</u>	
Combined total per year for all applications	8 quarts per acre
Preplant, At-planting, Preemergence applications	5 quarts per acre
Total in-crop applications from emergence through the V8 stage or 30 inches	2 quarts per acre
Maximum preharvest application rate after maximum kernel fill is complete and the crop is physiologically mature (black layer formation) until 7 days before harvest	1 quart per acre

### **Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting corn.

**TANK MIXTURES:** This product may be tank mixed with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Lariat, Lasso or Micro-Tech at 50 to 100 percent of labeled. Refer to the specific product label and observe all precautions and limitations on the label for any preemergence herbicide application, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines - the more restrictive requirements apply.

**NOTE:** For maximum weed control, a postemergence (in-crop) application of this product should be applied following the use of less than labeled rates of the preemergence residual products listed above.

### **Postemergence (In-Crop)**

**USE INSTRUCTIONS:** This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first.

When applied as directed, this product controls labeled annual grass and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more application of this product. The postemergent application of 24 to 32 fluid ounces per acre of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop, generally 4 inch tall weeds or less.

This product may be applied alone as a postemergence in-crop application to provide control of emerged weeds listed on this label. If new flushes of weeds occur, a sequential application of this product at 24 to 32 fluid ounces per acre will control the labeled grasses and broadleaf weeds.

**TANK MIXTURES:** This product may be applied in tank mixture with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, and Micro-Tech at 50 to 100 percent of labeled rate. This product may be applied in tank mixture with Permit and Atrazine at labeled rates. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines - the more restrictive requirements apply.

<b>Tank-mix Partner</b>	<b>Maximum Height Of Corn For Application</b>
Degree	11 inches

## I. MAIN LABEL FOR FOOD CROP USES

Degree Xtra Harness Harness Xtra Harness Xtra 5.6	
Bullet*	5 inches
Micro-Tech*	
Permit	30 inches
atrazine	12 inches

\*Bullet and Micro-Tech are not registered for use as a postemergence application in Texas.

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. Single in-crop applications of this product are not to exceed 1 quart per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 2 quarts per acre per growing season. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage.

### Preharvest

**USE INSTRUCTIONS:** In Roundup Ready corn, up to 1 quart per acre of this product can be applied preharvest. Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest, feeding, or grazing.

### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 11.3 Cotton with the Roundup Ready Gene

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Over-the-Top, Selective Equipment, Preharvest.

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Combined total per year for all applications	8 quarts per acre
Preplant, At-planting, Preemergence applications	5 quarts per acre
Total in-crop applications from ground cracking to layby	4 quarts per acre
Maximum preharvest application rate	2 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. The combined total application of this product from cotton emergence until harvest must not exceed 6 quarts per acre. NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-

## I. MAIN LABEL FOR FOOD CROP USES

LEAF (NODE) STAGE OF DEVELOPMENT. NO MORE THAN TWO APPLICATIONS SHOULD BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL IN-CROP OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS. ALLOW A MINIMUM OF 7 DAYS BETWEEN APPLICATION AND HARVEST.

### Preplant, Preemergence, At-Planting

USE INSTRUCTIONS: This product may be applied before, during or after planting cotton.

### Over-the-Top

USE INSTRUCTIONS: This product may be applied by aerial or ground application equipment at rates up to 1 quart per acre per application postemergence to Roundup Ready cotton from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss.

PRECAUTIONS, RESTRICTIONS: The addition of surfactant to the spray solution may result in crop injury and reduced yield and is not recommended for over-the-top applications of this product to Roundup Ready cotton.

**Salvage Treatment.** This treatment may be used after the 4-leaf stage of development and should only be used where weeds threaten to cause the loss of the crop. One quart per acre may be applied either as an over-the-top applications or as a post-directed treatments sprayed higher on the cotton plants and over the weeds. **NOTE: SALVAGE TREATMENTS WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT SHOULD BE USED PER GROWING SEASON.**

**NOTE:** For specific rates of application and instructions, refer to the "ANNUAL and PERENNIAL WEEDS RATE TABLES" in this booklet.

PRECAUTIONS, RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

### Selective Equipment

USE INSTRUCTIONS: This product may be applied using precision post-directed or hooded sprayers at rates up to 1 quart per acre per application to Roundup Ready cotton through layby. At this stage, post-directed equipment should be used which directs the spray to the base of the cotton plants. Contact of the spray with cotton leaves should be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row, and maintain low spray pressure (less than 30 psi). For best results, make applications while weeds are small (less than 3 inches).

PRECAUTIONS, RESTRICTIONS: See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

### Preharvest

USE INSTRUCTIONS: This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 2 quarts of this product may

65

## I. MAIN LABEL FOR FOOD CROP USES

be applied using either aerial or ground spray equipment. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product to cotton grown for seed, as a reduction in germination or vigor may occur. **THE USE OF ADDITIVES FOR PREHARVEST APPLICATION OF THIS PRODUCT TO ROUNDUP READY COTTON IS PROHIBITED.**

**ATTENTION:** Use of this product in accordance with label directions is expected to result in normal growth of roundup ready cotton, however, various environmental conditions, agronomic practices and other factors make it impossible to eliminate all risks associated with this product, even when applications are made in conformance with the label specifications. In some cases, these factors can result in boll loss, delayed maturity and/or yield loss.

### 11.4 Soybeans with the Roundup Ready Gene

**TYPES OF APPLICATIONS:** Preplant, At-planting, Preemergence, Postemergence (In-Crop), Preharvest, Post-Harvest.

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Combined total per year for all applications:	8 quarts per acre
Preplant, At-planting, Preemergence applications	5 quarts per acre
Total in-crop applications from cracking throughout flowering	3 quarts per acre
Maximum preharvest application rate	1 quart per acre

**PRECAUTIONS/RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops.

#### **Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting soybeans.

#### **Postemergence (In-Crop)**

**USE INSTRUCTIONS:** When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) throughout flowering. Refer to the "ANNUAL WEEDS RATE TABLE" in this label for rate recommendations for specific annual weeds. In general, an initial application of 1 quart per acre on 2- to 8-inch tall weeds is recommended. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 2 quarts per acre in any single in-crop application for control of annual weeds and where heavy weed densities exist.

A 1- to 2-quarts per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: Bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, maretail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpet creeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

## I. MAIN LABEL FOR FOOD CROP USES

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this may be necessary to control late flushes of weeds. IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP. To control giant ragweed, it is recommended that 1 quart per acre of this product be applied when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**NOTE:** The use of this product for in-crop applications over Roundup Ready soybeans may not be practiced in California unless the applicator has at the time of application a California-approved Supplemental Label specifying the accepted Directions for Use.

**PRECAUTIONS, RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single in-crop application is 2 quarts per acre. The maximum combined total of this product that can be applied during flowering is 2 quarts per acre.

### Preharvest

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans. Up to 1 quart per acre of this product can be applied by aerial or ground application.

**PRECAUTIONS, RESTRICTIONS:** Care should be taken to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of Roundup Ready soybeans. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

## 11.5 Sugar Beets with the Roundup Ready Gene

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence (In-Crop).

<u>Maximum Allowable Combined Application Quantities Per Season</u>	
Combined total per year for all applications	8 quarts per acre
Preplant, At-planting, Preemergence applications	5 quarts per acre
Emergence to 8-leaf stage	2.5 quarts per acre
Between 8-leaf stage and canopy closure	2 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. The combined total application from crop emergence through harvest must not exceed 4.5 quarts per acre. The maximum rate for any single application from crop emergence until the 8-leaf stage is 1.5 quarts per acre. The maximum rate for any single application between the 8-leaf stage and canopy closure is 1 quart per acre. Allow a minimum of 30 days between last application and sugar beet harvest.

### Preplant, Preemergence, At-Planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of Roundup Ready sugar beets.

## I. MAIN LABEL FOR FOOD CROP USES

### Postemergence (In-Crop)

**USE INSTRUCTIONS:** This product may be applied postemergent over-the-top to Roundup Ready sugar beets from emergence to 30 days prior to harvest. To maximize yield potential spray sugar beets early to eliminate competing weeds. Up to 4 sequential applications of this product may be made with at least 10 days between applications. Refer to the "ANNUAL WEEDS RATE TABLES" in this label for rate recommendations for specific annual weeds. This product will control or suppress, most perennial weeds. For some perennial weeds, repeat applications may be required to eliminate crop competition throughout the growing season.

## 12.0 NON-CROP USES AROUND THE FARMSTEAD

**TYPES OF APPLICATIONS:** General Non-Selective Weed Control, Trim-and-Edge, Greenhouse/Shadehouse, Chemical Mowing, Cut Stumps, Habitat Management.

### 12.1 General Weed Control, Trim-And-Edge

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

**TANK MIXTURES:** This product may be tank mixed with the following products. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 1 quart per acre of this product when weeds are less than 6 inches tall, 1.5 quarts per acre when weeds are 6 to 12 inches tall and 2 quarts per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 2 to 5 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "ANNUAL WEEDS -- HAND-HELD OR HIGH VOLUME EQUIPMENT" section of this label for recommended rates.

Arsenal  
Banvel/Clarity  
Barricade 65WG  
Diuron  
Endurance  
Escort  
Karmex DF  
Krovar 1 DF  
Oust  
Pendulum 3.3 EC  
Pendulum WDG

Plateau  
Princep DF  
Princep Liquid  
Ronstar 50 Wp  
Sahara  
Simazine  
Surflan  
Telar  
Vanquish  
2,4-D

This product plus dicamba tank mixtures may not be applied by air in California.

### 12.2 Greenhouse/Shadehouse

This product may be used to control weeds in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.



## I. MAIN LABEL FOR FOOD CROP USES

### 12.3 Chemical Mowing

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Use 16 fluid ounces of this product per acre when treating Bermudagrass. Use 64 fluid ounces of this product per acre when treating torpedograss or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**PRECAUTIONS, RESTRICTIONS:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

### 12.4 Cut Stumps

**TYPES OF APPLICATION:** Treating cut stumps in any non-crop site listed on this label

**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion

Alder  
Eucalyptus  
Madrone  
Oak  
Pepper, brazilian  
Pine, Austrian

Reed, giant  
Saltcedar  
Sweetgum  
Tan oak  
Willow

**PRECAUTIONS, RESTRICTIONS:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

### 12.5 Habitat Management

**TYPES OF USES:** Habitat restoration and maintenance, Wildlife food plots.

#### Habitat Restoration and Maintenance

**USE INSTRUCTIONS:** This product may be used to control exotic and other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broadspectrum vegetation control requirements in habitat management areas. Spot Treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.

#### Wildlife Food Plots

## I. MAIN LABEL FOR FOOD CROP USES

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

### 13.0 ANNUAL WEEDS RATE TABLE (Alphabetically by Species)

**WATER CARRIER VOLUMES OF 3 TO 10 GALLONS PER ACRE FOR GROUND APPLICATIONS AND 3 TO 5 GALLONS PER ACRE FOR AERIAL APPLICATIONS ARE RECOMMENDED.**

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

Do not tank mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

This product may be used up to 48 fluid ounces per acre where heavy weed densities exist.

#### ANNUAL WEEDS RATE TABLE

WEED SPECIES	RATE (fluid ounces per acre)				
	16	24	32	40	48
	Maximum height/length (in inches)				
Ammannia, purple	3	6	12	-	18
Annoda, spurred	-	2	3	5	8
Barley	18	18 +	-	-	-
Barnyardgrass	-	3	6	7	9
Bassia, fivehook	-	-	6	-	-
Beggarweed, Florida	-	5	8	-	-
Bittercress	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass, bulbous	6	-	-	-	-
Brome, downy <sup>1,2</sup>	6	12	-	-	-
Brome, Japanese	6	12	24	-	-
Browntop panicum	6	8	12	-	24
Buckwheat, wild <sup>3</sup>	-	1	2	-	-

# 1. MAIN LABEL FOR FOOD CROP USES

Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina geranium	-	-	4	-	9
Carpetweed	-	6	12	-	-
Cheat <sup>2</sup>	6	20	-	-	-
Chervil	20	-	-	-	-
Chickweed	-	12	18	-	-
Cocklebur	12	18	24	-	36
Copperleaf, hophornbeam	-	2	4	-	6
Copperleaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18
Corn, volunteer	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Crabgrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarf dandelion	12	-	-	-	-
Eastern mannagrass	8	12	-	-	-
Eclipta	-	4	8	12	-
Fall panicum	4	-	6	-	12
Falsedandelion	-	20	-	-	-
Falseflax, smallseed	12	-	-	-	-
Fiddleneck	-	6	12	-	-
Field pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-

71

# 1. MAIN LABEL FOR FOOD CROP USES

Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Foxtail, giant, bristly, yellow	6	12	20	-	-
Foxtail, Carolina	10	-	-	-	-
Foxtail, green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goosegrass	-	3	6	-	12
Grain sorghum (milo)	6	12	20	-	-
Groundcherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed/ Maretail ( <i>Conyza canadensis</i> )	-	6	12	-	18
Itchgrass	6	8	12	-	18
Jimsonweed	-	-	12	-	18
Johnsongrass, seedling	6	12	18	-	24
Junglerice	-	3	6	7	9
Knotweed	-	-	6	-	12
Kochia <sup>4</sup>	-	3 to 6	12	-	-
Lambsquarters	-	6	12	-	20
Little barley	6	12	-	-	-
London rocket	6	-	24	-	-
Mayweed	-	2	6	12	18
Morningglory, annual ( <i>Ipomoea spp</i> )	-	-	3	-	6
Mustard, blue	6	12	18	-	-
Mustard, tansy	6	12	18	-	-

72

# I. MAIN LABEL FOR FOOD CROP USES

Mustard, tumble	6	12	18	-	-
Mustard, wild	6	12	18	-	-
Nightshade, black	-	4	6	-	12
Nightshade, hairy	-	4	6	-	12
Oats	3	6	18	-	-
Pigweed species	-	12	18	24	-
Prickly lettuce	-	6	12	-	-
Purslane	-	-	3	-	6
Ragweed, common	-	6	12	-	18
Ragweed, giant	-	6	12	-	18
Red rice	-	-	4	-	-
Rye, volunteer/cereal <sup>2</sup>	6	18	18 +	-	-
Ryegrass	-	-	6	-	12
Sandbur, field	6	12	-	-	-
Sandbur, longspine	6	12	-	-	-
Shattercane	6	12	20	-	-
Shepherd's-purse	6	12	-	-	-
Sicklepod	-	2	4	-	8
Signalgrass, broadleaf	-	3	6	7	9
Smartweed, ladythumb	-	-	6	-	9
Smartweed, Pennsylvania	-	-	6	-	9
Sowthistle, annual	-	-	6	-	12
Spanishneedles	-	-	6	-	12
Speedwell, purslane	12	-	-	-	-
Sprangletop	6	12	20	-	-
Spurge, prostrate	-	6	12	-	-
Spurge, spotted	-	6	12	-	-

# 1. MAIN LABEL FOR FOOD CROP USES

Spurry, umbrella	6	-	-	-	-
Stinkgrass	-	12	-	-	-
Sunflower	12	18	-	-	-
Swinecress	-	5	12	-	-
Teaweed/ Prickly sida	-	2	4	-	6
Texas panicum	6	8	12	-	24
Thistle, Russian <sup>5</sup>	-	6	12	-	-
Velvetleaf	-	-	6	-	12
Virginia pepperweed	-	18	-	-	-
Waterhemp	-	-	6	-	12
Wheat <sup>2</sup>	6	12	18	-	-
Wheat, (overwintered)	-	6	12	-	18
Wild oats	3	6	18	-	-
Wild proso millet	-	6	12	-	18
Witchgrass	-	12	-	-	-
Woolly cupgrass	-	6	12	-	-
Yellow rocket	-	12	20	-	-

<sup>1</sup> For control of downy brome in no-till systems, use 24 fluid ounces per acre.

<sup>2</sup> Performance is better if application is made before this weed reaches the boot stage of growth.

<sup>3</sup> Use 24 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 32 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 32 fluid ounces followed by 32 fluid ounces of this product per acre.

<sup>4</sup> Do not treat kochia in the button stage.

<sup>5</sup> Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

## 13.1 Annual Weeds -- Rates for 10 to 40 Gallons per Acre

Apply 1 to 2 quarts of this product per acre. Use 1 quart per acre if weeds are less than 6 inches tall, 1.5 quarts per acre if weeds are 6 to 12 inches tall and 2 quarts per acre if weeds are greater than 12 inches tall. These rates will provide control of weeds listed in the annual weed control tables when water carrier volumes are 10

## I. MAIN LABEL FOR FOOD CROP USES

to 40 gallons per acre for ground applications. Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

### 13.2 Annual Weeds -- Tank Mixtures with 2,4-D, Dicamba or Tordon 22K

12 to 16 fluid ounces of this product plus 0.25 pound of dicamba or 0.5 pound of 2,4-D or 1 to 2 fluid ounces of Tordon 22K per acre will control the following weeds with the maximum height or length indicated: 6 inches -- prickly lettuce, mare's tail/horseweed, morning glory, kochia (dicamba only) wild buckwheat (Tordon 22K only); 12 inches -- cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

16 fluid ounces of this product plus 0.5 pound of 2,4-D per acre, will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

**DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.**

### 13.3 Annual Weeds -- Hand-Held or High-Volume Equipment

For control of weeds listed in the "ANNUAL WEEDS RATE TABLES", apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution.

For best results, use a 2 percent solution on harder-to-control perennials, such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

### 13.4 Annual Weeds -- Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1 pound of atrazine per acre.

24 to 28 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: Barnyardgrass (requires 28 ounces for control), Downy brome, Green foxtail, Lambsquarters, Prickly lettuce, Tansy mustard, Pigweed, Field sandbur, Stinkgrass, Russian thistle, Volunteer wheat, Witchgrass and Kochia (add 1/8 pound of dicamba for control).

## 14.0 PERENNIAL WEEDS RATE TABLE (Alphabetically by Species)

Apply to actively growing perennial weeds.

**NOTE:** If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

75

## I. MAIN LABEL FOR FOOD CROP USES

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Best results are obtained when soil moisture is adequate for active weed growth.

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
--------------	----------------	-----------------------	-------------------------

<b>Alfalfa</b>	<b>1 - 2</b>	<b>3 - 10</b>	<b>2%</b>
----------------	--------------	---------------	-----------

Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

<b>Alligatorweed</b>	<b>4</b>	<b>3 - 20</b>	<b>1.5%</b>
----------------------	----------	---------------	-------------

Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.

<b>Anise (fennel)</b>	<b>--</b>	<b>--</b>	<b>1 - 2%</b>
-----------------------	-----------	-----------	---------------

For hand-held, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.

<b>Bahiagrass</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
-------------------	--------------	---------------	-----------

Apply when most plants have reached the early head stage.

<b>Bentgrass</b>	<b>1.5</b>	<b>10 - 20</b>	<b>2%</b>
------------------	------------	----------------	-----------

For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.

<b>Bermudagrass</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
---------------------	--------------	---------------	-----------

For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when Bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.

<b>Bermudagrass, water (knotgrass)</b>	<b>1 - 1.5</b>	<b>5 - 10</b>	<b>2%</b>
--	----------------	---------------	-----------

Apply 1.5 quarts of this product in 5 to 10 gallons of water per acre. Apply when water Bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only: Apply 1 quart of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water Bermudagrass that is 12 to 18 inches in length.

This product is not registered in California for use on water Bermudagrass.



## I. MAIN LABEL FOR FOOD CROP USES

<b>Bindweed, field</b>	<b>0.5 - 5</b>	<b>3 - 20</b>	<b>2%</b>
------------------------	----------------	---------------	-----------

Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Also for control, apply 2 quarts of this product plus 0.5 pound of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.

For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

**In California only**, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

---

<b>Bluegrass, Kentucky</b>	<b>1 - 2</b>	<b>3 - 40</b>	<b>2%</b>
----------------------------	--------------	---------------	-----------

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

---

<b>Blueweed, Texas</b>	<b>3 - 5</b>	<b>3 - 40</b>	<b>2%</b>
------------------------	--------------	---------------	-----------

Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

---

<b>Brackenfern</b>	<b>3 - 4</b>	<b>3 - 40</b>	<b>1 - 1.5%</b>
--------------------	--------------	---------------	-----------------

Apply to fully expanded fronds that are at least 18 inches long.

---

<b>Bromegrass, smooth</b>	<b>1 - 2</b>	<b>3 - 40</b>	<b>2%</b>
---------------------------	--------------	---------------	-----------

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

---

<b>Bursage, woolly-leaf</b>	<b>--</b>	<b>3 - 20</b>	<b>2%</b>
-----------------------------	-----------	---------------	-----------

## I. MAIN LABEL FOR FOOD CROP USES

For control, apply 2 quarts of this product plus ½ pound of dicamba per acre. For partial control, apply 1 quart of this product plus ½ pound of dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

---

Canarygrass, reed	2 - 3	3 - 40	2%
-------------------	-------	--------	----

---

For best results, apply when most plants have reached the boot-to-head stage of growth.

---

Cattail	3 - 5	3 - 40	2%
---------	-------	--------	----

---

Apply when most plants have reached the early head stage.

---

Clover; red or white	3 - 5	3 - 20	2%
----------------------	-------	--------	----

---

Apply when most plants have reached the early bud stage.

Also for control, apply 16 to 32 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

---

Cogongrass	3 - 5	10 - 40	2%
------------	-------	---------	----

---

Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

---

Dallisgrass	3 - 5	3 - 20	2%
-------------	-------	--------	----

---

Apply when most plants have reached the early head stage.

---

Dandelion	3 - 5	3 - 40	2%
-----------	-------	--------	----

---

Apply when most plants have reached the early bud stage of growth.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre.

---

Dock, curly	3 - 5	3 - 40	2%
-------------	-------	--------	----

---

Apply when most plants have reached the early bud stage of growth.

Also for control, apply 16 to 32 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.

---

Dogbane, hemp	4	3 - 40	2%
---------------	---	--------	----

---

Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

## 1. MAIN LABEL FOR FOOD CROP USES

<b>Fescue (except tall)</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
-----------------------------	--------------	---------------	-----------

Apply when most plants have reached the early head stage.

<b>Fescue, tall</b>	<b>1 - 3</b>	<b>3 - 40</b>	<b>2%</b>
---------------------	--------------	---------------	-----------

Apply 3 quarts of this product per acre when most plants have reached boot-to-early seedhead stage of development.

Fall applications only: Apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.

<b>Guineagrass</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>1%</b>
--------------------	--------------	---------------	-----------

Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. In Texas and ridge of Florida, use 2 quarts for control. In the flatwoods region of Florida, 3 quarts is required for control.

<b>Horsenettle</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
--------------------	--------------	---------------	-----------

Apply when most plants have reached the early bud stage.

<b>Horseradish</b>	<b>4</b>	<b>3 - 40</b>	<b>2%</b>
--------------------	----------	---------------	-----------

Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

<b>Iceplant</b>	<b>--</b>	<b>--</b>	<b>1.5 - 2%</b>
-----------------	-----------	-----------	-----------------

Iceplant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.

<b>Jerusalem artichoke</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
----------------------------	--------------	---------------	-----------

Apply when most plants are in the early bud stage.

<b>Johnsongrass</b>	<b>0.5 - 3</b>	<b>3 - 40</b>	<b>1%</b>
---------------------	----------------	---------------	-----------

In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage is not practiced (no-till), apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using 1 quart of this product per acre.

For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression)--Apply a 1 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

# 1. MAIN LABEL FOR FOOD CROP USES

<b>Kikuyugrass</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>2%</b>
--------------------	--------------	---------------	-----------

Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

<b>Knapweed</b>	<b>4</b>	<b>3 - 40</b>	<b>2%</b>
-----------------	----------	---------------	-----------

Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

<b>Lantana</b>	<b>--</b>	<b>--</b>	<b>1 - 1.25%</b>
----------------	-----------	-----------	------------------

Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

<b>Lespedeza</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
------------------	--------------	---------------	-----------

Apply when most plants have reached the early bud stage.

<b>Milkweed, common</b>	<b>3</b>	<b>3 - 40</b>	<b>2%</b>
-------------------------	----------	---------------	-----------

Apply when most plants have reached the late bud to flower stage of growth.

<b>Muhly, wirestem</b>	<b>1 - 2</b>	<b>3 - 40</b>	<b>2%</b>
------------------------	--------------	---------------	-----------

Use 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.

<b>Mullein, common</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
------------------------	--------------	---------------	-----------

Apply when most plants are in the early bud stage.

<b>Napiergrass</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
--------------------	--------------	---------------	-----------

Apply when most plants are in the early head stage.

<b>Nightshade, silverleaf</b>	<b>2</b>	<b>3 - 10</b>	<b>2%</b>
-------------------------------	----------	---------------	-----------

Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.

<b>Nutsedge, purple or yellow</b>	<b>0.5 - 3</b>	<b>3 - 40</b>	<b>1 - 2%</b>
-----------------------------------	----------------	---------------	---------------

Apply 3 quarts of this product per acre or apply a 1 to 2 percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

80

## 1. MAIN LABEL FOR FOOD CROP USES

Sequential applications: 1 to 2 quarts of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 1 pint to 2 quarts of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

---

Orchardgrass	1 - 2	3 - 40	2%
--------------	-------	--------	----

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till corn: Apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

---

Pampasgrass	--	--	1.5 - 2%
-------------	----	----	----------

Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

---

Paragrass	3 - 5	3 - 20	2%
-----------	-------	--------	----

Apply when most plants are in the early head stage.

---

Phragmites	3 - 5	10 - 40	1 - 2%
------------	-------	---------	--------

For partial control and for best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

---

Poison hemlock	--	--	1 - 2%
----------------	----	----	--------

For hand-held, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Thorough coverage is necessary for best control.

---

Pokeweed, common	1	3 - 40	2%
------------------	---	--------	----

Apply to actively growing plants up to 24 inches tall.

---

Quackgrass	1 - 3	3 - 40	2%
------------	-------	--------	----

In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1 quart of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 2 quarts of this product. Do not tank mix with residual herbicides when using the 1-quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

## I. MAIN LABEL FOR FOOD CROP USES

In pastures, sods or non-crop areas where deep tillage does not follow application: Apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.

<b>Redvine</b>	<b>0.75 - 2</b>	<b>5 - 10</b>	<b>2%</b>
----------------	-----------------	---------------	-----------

For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

<b>Reed, giant</b>	<b>--</b>	<b>--</b>	<b>2%</b>
--------------------	-----------	-----------	-----------

Best results are obtained when applications are made in late summer to fall.

<b>Ryegrass, perennial</b>	<b>1 - 3</b>	<b>3 - 40</b>	<b>1%</b>
----------------------------	--------------	---------------	-----------

In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage is not practiced (no-till), apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using 1 quart of this product per acre.

<b>Smartweed, swamp</b>	<b>3 - 5</b>	<b>3 - 40</b>	<b>2%</b>
-------------------------	--------------	---------------	-----------

Apply when most plants have reached the early bud stage of growth. Also for control, apply 16 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

<b>Sowthistle, perennial</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>2%</b>
------------------------------	--------------	---------------	-----------

Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

<b>Spurge, leafy</b>	<b>--</b>	<b>3 - 10</b>	<b>2%</b>
----------------------	-----------	---------------	-----------

For suppression, apply 16 fluid ounces of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.

<b>Starthistle, yellow</b>	<b>2</b>	<b>10 - 40</b>	<b>2%</b>
----------------------------	----------	----------------	-----------

Best results are obtained when applications are made during the rosette, bolting and early flower stages.

<b>Sweet potato, wild</b>	<b>--</b>	<b>--</b>	<b>2%</b>
---------------------------	-----------	-----------	-----------

For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

<b>Thistle, artichoke</b>	<b>--</b>	<b>--</b>	<b>2%</b>
---------------------------	-----------	-----------	-----------

## I. MAIN LABEL FOR FOOD CROP USES

For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

---

<b>Thistle, Canada</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>2%</b>
------------------------	--------------	---------------	-----------

Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression in the spring, apply 1 quart of this product, or 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

---

<b>Timothy</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>2%</b>
----------------	--------------	---------------	-----------

For best results, apply when most plants have reached the boot-to-head stage of growth.

---

<b>Torpedograss</b>	<b>4 - 5</b>	<b>3 - 40</b>	<b>2%</b>
---------------------	--------------	---------------	-----------

For partial control, apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.

---

<b>Trumpet creeper</b>	<b>2</b>	<b>5 - 10</b>	<b>2%</b>
------------------------	----------	---------------	-----------

For partial control, apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

---

<b>Vaseygrass</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
-------------------	--------------	---------------	-----------

Apply when most plants are in the early head stage.

---

<b>Velvetgrass</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
--------------------	--------------	---------------	-----------

Apply when most plants are in the early head stage.

---

<b>Wheatgrass, western</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>2%</b>
----------------------------	--------------	---------------	-----------

For best results, apply when most plants have reached the boot-to-head stage of growth.

## 15.0 WOODY BRUSH AND TREES RATE TABLE

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

## 1. MAIN LABEL FOR FOOD CROP USES

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

Weed Species	Rate (QT/A)	Hand-Held % Solution
<u>* Partial Control</u>		
Alder	3 - 4	1 - 1.5%
Ash *	2 - 5	1 - 2%
Aspen, quaking	2 - 3	1 - 1.5%
Bearmat (Bearclover) *	2 - 5	1 - 2%
Beech *	2 - 5	1 - 2%
Birch	2 - 3	1 - 1.5%
Blackberry	3 - 4	1 - 1.5%

Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.75 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.

Blackgum	2 - 5	1 - 2%
Bracken	2 - 5	1 - 2%
Broom; French, Scotch	2 - 5	1.5 - 2%
Buckwheat, California *	2 - 4	1 - 2%

Thorough coverage of foliage is necessary for best results.

Cascara *	2 - 5	1 - 2%
Catsclaw *	--	1 - 1.5%
Ceanothus *	2 - 5	1 - 2%
Chamise	--	1%



## I. MAIN LABEL FOR FOOD CROP USES

Thorough coverage of foliage is necessary for best results.

Cherry; bitter, black, pin	2 - 3	1 - 1.5%
Coyote brush	3 - 5	1.5 - 2%
Apply when at least 50 percent of the new leaves are fully developed.		
Dogwood *	2 - 5	1 - 2%
Elderberry	2 - 3	1 - 1.5%
Elm *	2 - 5	1 - 2%
Eucalyptus	--	2%

For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.

Florida holly (Brazilian Peppertree).*	2 - 5	1 - 2%
Gorse *	2 - 5	1 - 2%
Hasardia *	2 - 4	1 - 2%

Thorough coverage of foliage is necessary for best results.

Hawthorn	2 - 3	1 - 1.5%
Hazel	2 - 3	1 - 1.5%
Hickory *	2 - 5	1 - 2%
Honeysuckle	3 - 4	1 - 1.5%
Hornbeam, American *	2 - 5	1 - 2%
Kudzu	4 - 5	2%

Repeat applications may be required to maintain control.

Locust, black *	2 - 4	1 - 2%
Madrone resprouts *	--	2%

Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

Manzanita *	2 - 5	1 - 2%
Maple, red	2 - 4	1 - 1.5%

85

## I. MAIN LABEL FOR FOOD CROP USES

Apply a 1 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.

Maple, sugar	--	1 - 1.5%
--------------	----	----------

Apply when at least 50 percent of the new leaves are fully developed.

Monkey flower *	2 - 4	1 - 2%
-----------------	-------	--------

Thorough coverage of foliage is necessary for best results.

Oak; black, white *	2 - 4	1 - 2%
---------------------	-------	--------

Oak, post	3 - 4	1 - 1.5%
-----------	-------	----------

Oak; northern,	--	1 - 1.5%
----------------	----	----------

Apply when at least 50 percent of the new pin leaves are fully developed

Oak; southern Red	2 - 3	1 - 1.5%
----------------------	-------	----------

Persimmon *	2 - 5	1 - 2%
-------------	-------	--------

Pine	2 - 5	1 - 2%
------	-------	--------

Poison ivy/ Poison oak	4 - 5	2%
---------------------------	-------	----

Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

Poplar, yellow *	2 - 5	1 - 2%
------------------	-------	--------

Redbud, eastern	2 - 5	1 - 2%
--------------------	-------	--------

Rose, multiflora	2	1%
---------------------	---	----

Treatments should be made prior to leaf deterioration by leaf-eating insects.

Russian olive *	2 - 5	1 - 2%
-----------------	-------	--------

Sage, black	2 - 4	1%
-------------	-------	----

Thorough coverage of foliage is necessary for best results.

Sage, white *	2 - 5	1 - 2%
---------------	-------	--------

Sage brush, California	2 - 4	1%
------------------------	-------	----

Thorough coverage of foliage is necessary for best results.

## I. MAIN LABEL FOR FOOD CROP USES

Salmonberry	2 - 3	1 - 1.5%
Saltcedar	2 - 5	1 - 2%
Sassafras *	2 - 5	1 - 2%
Sourwood *	2 - 5	1 - 2%
Sumac; poison, smooth, winged *	2 - 4	1 - 2%
Sweetgum	2 - 3	1 - 1.5%
Swordfern *	2 - 5	1 - 2%
Tallowtree, Chinese	--	1%

Thorough coverage of foliage is necessary for best results

Tan oak resprouts *	--	2%
---------------------	----	----

Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.

Thimbleberry	2 - 3	1 - 1.5%
Tobacco, tree *	2 - 4	1 - 2%
Trumpet creeper	2 - 3	1 - 1.5%
Vine maple *	2 - 5	1 - 2%
Virginia creeper	2 - 5	1 - 2%
Waxmyrtle, southern *	2 - 5	1 - 2%
Willow	3 - 4	1 - 1.5%

## 16.0 LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. **NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE.** This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions - beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather

## 1. MAIN LABEL FOR FOOD CROP USES

conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

For over-the-top uses on Roundup Ready crop varieties crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

Amplify, Bullet, Degree, FarmSource, Harness, Lariat, Lasso, Micro-Tech, Monsanto and Vine symbol, and Permit are trademarks of Monsanto Technology LLC.

Assure, Authority, Canopy, Escort, Krovar, Leadoff, Lexone, Oust, Staple and Telar are trademarks of E.I. duPont de Nemours & Co. Inc.

Cotoran, Cotton-Pro, Direx, Karmex, Linex Lorox and Meturon are trademarks of Griffin LLC.

Barricade, Bicep MAGNUM, Boundary, Caporal, Dual MAGNUM, Endurance, Flexstar, Fusion, Princep Caliber, Reflex and Solicam, Vanquish and Zorial are trademarks of Syngenta CropProtection Inc.

Firstate, Fultime, Goal, Python, Surflan, Topnotch and Tordon are trademarks of Dow AgroSciences LLC.

Arsenal, Banvel, Clarity, Distinct, Frontier, Guardsman, Marksman, Outlook, Pendulum, Plateau, Prowl, Pursuit, Pursuit Plus, Sahara, Scepter, Squadron and Steel are trademarks of BASF Corp.

Balance, Folex, Ginstar, Prep, and Ronstar are trademarks of Aventis CropSciences.

Axiom, DEF, Domain, Epic, and Sencor are trademarks of Bayer Crop Protection.

Aim, Command and Gauntlet are trademarks of FMC Corporation.

Devrinol is a trademark of United Phosphorus Inc.

Sim-Trol is a trademark of Sipcam Agro USA, Inc.

Valor is a trademark of Valent USA Corporation

I. MAIN LABEL FOR FOOD CROP USES

---

No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-445

---

In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

---

© [DATE] MONSANTO COMPANY  
ST. LOUIS, MISSOURI, 63167 USA

## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

Table of Contents: Crop Supplemental labeling

	Name	Approval Date	
A	FOR USE IN DORMANT ALFALFA	26-May-1993	
B	FOR THE CONTROL OF ANNUAL WEEDS IN COASTAL BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING	26-May-1993	
C	FOR DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA. FOR NON-SELECTIVE CONTROL OF LISTED ANNUAL WEEDS IN SMALL GRAIN CROPPING SYSTEMS	2-Apr-1992	
D	TANK MIX WITH AIM® HERBICIDE FOR IMPROVED SYMPTOMS IN PRE-PLANT APPLICATIONS IN CORN, SOYBEANS OR WHEAT	New for this Reg. No.*	
E	TANK MIX WITH RESOURCE® FOR IMPROVED SYMPTOMS IN PRE-PLANT APPLICATIONS IN CORN OR SOYBEANS	New for this Reg. No.*	
F	FOR AERIAL APPLICATION IN CALIFORNIA ONLY	10-Aug-1999	
G	FOR AERIAL APPLICATION IN FRESNO COUNTY, CALIFORNIA ONLY (From February 15 through March 31 Only)	9-Dec-1993	
H	FOR AERIAL APPLICATION IN ARKANSAS ONLY	3-Nov-1998	
I	USE ONLY FOR SEED PRODUCTION OF ALFALFA WITH THE ROUNDUP READY® GENE	New for this Reg. No.*	
J	USE ONLY FOR SEED PRODUCTION OF LETTUCE WITH THE ROUNDUP READY® GENE	New for this Reg. No.*	
K	USE ONLY FOR SEED PRODUCTION OF RICE WITH THE ROUNDUP READY® GENE	New for this Reg. No.*	
L	FOR USE ONLY FOR SEED PRODUCTION OF WHEAT WITH THE ROUNDUP READY® GENE	New for this Reg. No.*	
M	FOR CONTROLLING BARNYARDGRASS ( <i>ECHINOCHLOA CRUS-GALLI</i> ) IN RICE USING RENOVATION TREATMENTS IN CALIFORNIA ONLY	New for this Reg. No.*	
N	FOR NEW COTTON LINES WITH THE ROUNDUP READY GENE - IN-CROP APPLICATIONS	New for this Reg. No.*	

\* Original approval of these uses with Roundup Ultra or Roundup UltraMAX herbicides.

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR [INSERT BRAND NAME] BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using [INSERT BRAND NAME] as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

[INSERT BRAND NAME]

Herbicide

EPA Reg. No. 524-445

Keep out of reach of children.

### WARNING!      AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

[INSERT BRAND NAME] is a registered trademark of Monsanto Technology LLC.

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

---

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for [INSERT BRAND NAME] for essential product performance information.

---

[INSERT SPECIFIC USE DIRECTIONS HERE]

---

Read the "Limit of Warranty and Liability" in the label booklet for [INSERT BRAND NAME] before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© [DATE] MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

### A. FOR USE IN DORMANT ALFALFA

#### USE DIRECTIONS

This product will control or suppress many weeds, including quackgrass, downy brome and cheatgrass in dormant alfalfa.

Apply 8 to 12 fluid ounces per acre of this product. Apply in the spring to alfalfa that is dormant. Applications should be made after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfalfa with [INSERT BRAND NAME].

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated.

Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

Slight discoloration of the alfalfa may occur, but the alfalfa will regreen and regrow under moist soil conditions as effects of this product wear off.

Application of this product is limited to persons who have attended a Monsanto-approved training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

### B. FOR THE CONTROL OF ANNUAL WEEDS IN COASTAL BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING

#### USE DIRECTIONS

This product may be applied at 16 fluid ounces per acre to control the weeds listed below and most other winter annual grass and broadleaf weeds in established coastal Bermudagrass pastures.

Annual bluegrass	Oats
Cheat	Ryegrass, Italian
Crabgrass	Sandbur, field
Henbit	Sunflower
Johnsongrass, seedling	Wheat
Little barley	Wild mustard

#### TIMING OF APPLICATION

Applications prior to spring growth: Apply this product in the late winter or early spring but before new coastal Bermudagrass growth begins in the spring. Applications to new growth can damage the Bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait 60 days after making this application before grazing or harvesting the treated area.

Applications following the first cutting: Apply this product after the first Bermudagrass cutting when the Bermudagrass has not yet begun to regrow. Applications made after regrowth has begun can damage the Bermudagrass.



## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

Remove domestic livestock from the pasture before making the application. Wait 28 days after making this application before grazing or harvesting the treated area.

NOTE: ONLY ONE APPLICATION PER YEAR MAY BE MADE TO ANY ONE FIELD. A SPRING APPLICATION PRIOR TO GROWTH AND AN APPLICATION FOLLOWING THE FIRST CUTTING MAY NOT BE MADE ON THE FIELD DURING THE SAME YEAR.

### C. FOR DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA. FOR NON-SELECTIVE CONTROL OF LISTED ANNUAL WEEDS IN SMALL GRAIN CROPPING SYSTEMS

#### USE DIRECTIONS

Refer to the [INSERT BRAND NAME] label for rate recommendations and weeds controlled.

For ground applications, use 3 to 5 gallons of water per acre. For aerial applications, use 2 to 3 gallons of water per acre.

#### ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this herbicide can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

Adjust boom height on ground equipment to prevent streaked, overlapped or uneven applications. Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets.

In aerial applications, do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Ensure uniform application. Use appropriate marking devices when applying herbicides by air.

Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residue of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF PART. LANDING GEAR IS MOST SUSCEPTIBLE. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

**D. TANK MIX WITH Aim® Herbicide FOR IMPROVED SYMPTOMS IN PRE-PLANT APPLICATIONS IN CORN, SOYBEANS OR WHEAT**

**USE DIRECTIONS**

This tank mixture will significantly enhance the speed of symptomatology appearance on certain weeds when applied as a pre-plant treatment prior to corn, Roundup Ready corn, soybeans, Roundup Ready soybeans, or wheat. This mixture may be applied prior to planting or emergence of labeled crops. This mixture will not provide residual control of weeds that are un-emerged at the time of treatment.

Combine [INSERT BRAND NAME] (32 fluid ounces of product per acre) and Aim (0.144 ounce per acre) in the spray tank in 10 to 20 gallons of water per acre. For best results, make applications to actively growing weeds. Ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of water may be added. The addition of 2,4-D or dicamba is not recommended.

**SPECIFIC MIXING RECOMMENDATIONS**

**Option 1**

1. Fill the spray tank one-half full with water and start the agitation.
2. Add Aim at 0.144 ounce per acre and mix thoroughly.
3. If desired add ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of spray.
4. Add [INSERT BRAND NAME] at 32 fluid ounces per acre and finish filling the spray tank with water.

**Option 2**

1. Fill the spray tank one-half full with water and start the agitation.
2. If desired add ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of spray.
3. Add [INSERT BRAND NAME] at 32 fluid ounces per acre.
4. Prepare a slurry of Aim with water and add to the spray tank.

Read and follow the Aim label for additional application instructions and precautions.

Aim is a trademark of FMC Corporation.

**E. TANK MIX WITH RESOURCE® FOR IMPROVED SYMPTOMS IN PRE-PLANT APPLICATIONS IN CORN OR SOYBEANS**

**USE DIRECTIONS**

This tank mixture will significantly enhance the speed of symptomatology appearance on certain weeds when applied as a pre-plant treatment prior to corn or soybeans. This mixture may be applied prior to planting or emergence of labeled crops. This mixture will not provide residual control of weeds that are un-emerged at the time of treatment.

Combine [INSERT BRAND NAME] (32 fluid ounces of product per acre) and Resource® (2.08 fluid ounces per acre) in the spray tank in 10 to 20 gallons of water per acre. For best results, make applications to actively growing weeds. Ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of water may be added. The addition of 2,4-D or dicamba is not recommended.

**SPECIFIC MIXING RECOMMENDATIONS**

**Option 1**

1. Fill the spray tank one-half full with water and start the agitation.
2. Add Resource at 2.08 fluid ounces per acre and mix thoroughly.
3. If desired add ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of spray.
4. Add [INSERT BRAND NAME] at 32 fluid ounces per acre and finish filling the spray tank with water.

## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

### Option 2

1. Fill the spray tank one-half full with water and start the agitation.
2. If desired add ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of spray.
3. Add [INSERT BRAND NAME] at 32 fluid ounces per acre.
4. Add Resource at 2.08 fluid ounces per acre to the spray tank.

Read and follow the Resource label for additional application instructions and precautions.

Resource is a trademark of Valent USA Corporation.

## F. FOR AERIAL APPLICATION IN CALIFORNIA ONLY

### USE DIRECTIONS

Aerial applications of this product are allowed in the following situations:

1. In fallow and reduced tillage systems prior to the emergence or transplanting of labeled crops.
2. In alfalfa and pasture renovation applications.
3. Over-the-top applications in Roundup Ready<sup>®</sup> corn and cotton. Refer to the [INSERT BRAND NAME] booklet and/or supplemental labels for specific application instructions for over-the-top applications in these crops.
4. Preharvest in alfalfa, corn, cotton, wheat, Roundup Ready corn and Roundup Ready cotton. Refer to the [INSERT BRAND NAME] booklet and/or supplemental labels for [INSERT BRAND NAME] for specific preharvest application instructions for each individual crop.

Do not plant subsequent crops other than those listed in the label booklet for 30 days following application.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

When tank mixing this product with 2,4-D for aerial applications, only 2,4-D amine formulations may be used. This tank mixture may be used for fallow and reduced tillage systems and alfalfa and pasture renovation applications only.

DO NOT EXCEED THE FOLLOWING MAXIMUM RATES WHEN MAKING APPLICATIONS BY AIR:

1 quart per acre	2 quarts per acre
	Alfalfa
Corn	
Roundup Ready corn	
	Cotton
	Roundup Ready cotton
	Fallow
	Reduced Tillage Systems
	Pastures
Wheat	

95

## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

### Aerial Equipment

Use the recommended rates of this product in 3 to 15 gallons of water per acre. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters.

**AVOID DRIFT—DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops.

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets. Do not angle nozzles forward into the air-stream and do not increase spray volume by increasing nozzle pressure. Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

**Ensure uniform application—**To avoid streaking, uneven, or over-lapped application, use appropriate marking devices. Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

### G. FOR AERIAL APPLICATION IN FRESNO COUNTY, CALIFORNIA ONLY (From February 15 through March 31 Only)

#### Applicable Area

This supplement only applies to the area contained inside the following boundaries within Fresno County, California.

North: Fresno County line  
South: Fresno County line  
East: State Highway 99  
West: Fresno County line

#### General Information

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

Observe the following directions to minimize off-site movement during aerial application of this product. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

### Written Recommendations

A written recommendation **MUST** be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation **MUST** state the proximity of surrounding crops, and that conditions of each manufacturer's product label and this label have been satisfied.

---

### Aerial Applicator Training and Equipment

---

Aerial application of this product is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved fly-ins constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

**Applications at Night**—Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

---

To report known or suspected misuse of  
this product, call 1-800-332-3111.

---

For additional information on the proper aerial application of this product, call 916-784-1718.

**Note:** For aerial application from April 1 through February 14, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" supplemental label.

## H. FOR AERIAL APPLICATION IN ARKANSAS ONLY

### USE DIRECTIONS

**AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES. DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

Use the recommended rate of this product in 3 to 15 gallons of water per acre.

Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are recommended.

Applications should typically be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety.

The distance of the outermost nozzles on the boom must not exceed 75 percent of the length of the wingspan or rotor. In many cases, reducing this distance to 65 percent of the length of the wingspan or rotor will improve drift control without affecting the swath width.

## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

Nozzles must always discharge backward parallel with the air stream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing airflow on rotary winged aircraft. Avoid the use of nozzles with wide-angle discharge.

Do not apply this product when winds are in excess of 10 miles per hour.

Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 miles per hour.

Use the following guidelines when applications are made near crops or other desirable vegetation:

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

### I. USE ONLY FOR SEED PRODUCTION OF ALFALFA WITH THE ROUNDUP READY® GENE

NOTE: THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT ALFALFA IN PRODUCTION FIELDS OF ALFALFA CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH OF ALFALFA WILL RESULT IF ALFALFA VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

#### USE DIRECTIONS

This product will control non-glyphosate tolerant alfalfa in seed production fields of alfalfa containing the Roundup Ready gene. Apply up to 64 fluid ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Subsequent applications of up to 64 fluid ounces per acre each may be applied, if needed to control non-glyphosate tolerant alfalfa plants.

DO NOT EXCEED A MAXIMUM RATE OF 8 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.

Application timing—This product can be applied to Roundup Ready alfalfa from emergence to harvest.

Treated alfalfa or the resulting seed may not be used for food or feed. Do not feed or graze treated alfalfa. Do not process treated alfalfa or resulting seed for food or feed.

### J. USE ONLY FOR SEED PRODUCTION OF LETTUCE WITH THE ROUNDUP READY® GENE

NOTE: THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT LETTUCE IN PRODUCTION FIELDS OF LETTUCE CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH OF LETTUCE WILL RESULT IF LETTUCE VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

#### USE DIRECTIONS

This product will control non-glyphosate tolerant lettuce in seed production fields of lettuce containing the Roundup Ready gene. Apply up to 64 fluid ounces of this product in 5 to 20 gallons of spray solution per acre.

## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

as a broadcast spray. A second application up to 64 fluid ounces per acre may be applied, if needed to control non-glyphosate tolerant lettuce plants.

DO NOT EXCEED A MAXIMUM RATE OF 4 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.

Application timing—This product can be applied to Roundup Ready lettuce from emergence to harvest.

Treated lettuce may not be used for food or feed. Do not feed or graze treated lettuce. Do not process treated lettuce for food or feed.

### K. USE ONLY FOR SEED PRODUCTION OF RICE WITH THE ROUNDUP READY® GENE

NOTE: THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT RICE IN PRODUCTION FIELDS OF RICE CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH WILL RESULT IF RICE VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

#### USE DIRECTIONS

This product will control non-glyphosate tolerant rice in seed production fields of rice containing the Roundup Ready gene. Apply up to 64 ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application up to 64 ounces per acre may be applied, if needed to control non-glyphosate tolerant rice plants.

DO NOT EXCEED A MAXIMUM RATE OF 4 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.

Application timing -- This product can be applied to Roundup Ready rice from emergence to harvest.

Treated rice may not be used for food or feed. Do not feed or graze treated rice. Do not process treated rice for food or feed.

### L. FOR USE ONLY FOR SEED PRODUCTION OF WHEAT WITH THE ROUNDUP READY® GENE

NOTE: THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT WHEAT IN PRODUCTION FIELDS OF WHEAT CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH WILL RESULT IF WHEAT VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

#### USE DIRECTIONS

This product will control non-glyphosate tolerant wheat in seed production fields of wheat containing the Roundup Ready gene. Apply up to 32 fluid ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application up to 32 fluid ounces per acre may be applied, if needed to control non-glyphosate tolerant wheat plants.

DO NOT EXCEED A MAXIMUM RATE OF 2 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.

## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

Application timing—This product can be applied to Roundup Ready wheat from emergence to harvest.

Treated wheat may not be used for food or feed. Do not feed or graze treated wheat. Do not process treated wheat for food or feed.

### M. FOR CONTROLLING BARNYARDGRASS (*ECHINOCHLOA CRUS-GALLI*) IN RICE USING RENOVATION TREATMENTS IN CALIFORNIA ONLY

#### USE DIRECTIONS

##### Renovation Treatment

**USE INSTRUCTIONS:** This product may be applied as a renovation treatment in rice crops to control barnyardgrass infestations using ground broadcast spray or hand-held equipment. Renovation is defined as herbicide treatment that will produce crop and weed destruction in an entire field or contiguous area treated within a field. Follow the application methods and recommended treatment rates in the label booklet for [INSERT BRAND NAME] herbicide.

**PRECAUTIONS, RESTRICTIONS:** The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason. The rice straw and stubble from the treated area, including a 25-foot buffer zone on all sides, shall not be used for grazing, animal bedding or any feed purposes.

No Aerial applications are permitted for rice renovation using this supplemental label.

### N. FOR NEW COTTON LINES WITH THE ROUNDUP READY® GENE – IN-CROP APPLICATIONS

#### General Information

ATTENTION: MONSANTO RECOMMENDS THIS PRODUCT FOR USE ONLY OVER-THE-TOP OF OR DIRECTED ONTO IMPROVED COTTON VARIETIES THAT ARE DESIGNATED AS COTTON WITH THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH OF COTTON WILL RESULT IF ANY COTTON VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT. AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS AND TREES, OTHER THAN CROPS WITH THE ROUNDUP READY GENE, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.

ROUNDUP READY COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY", INDICATES THE COTTON VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT.

#### USE DIRECTIONS



## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

This product will control many troublesome weeds with over-the-top, post-directed, hooded sprayer, or preharvest applications in Roundup Ready cotton. See the APPLICATION EQUIPMENT AND TECHNIQUES section of the [INSERT BRAND NAME] label booklet for more information.

### Maximum Allowable Yearly Rates

Combined total per year for all applications	8 quarts per acre
Preplant, Preemergence applications	5 quarts per acre
Total over-the-top applications from cracking to layby	2.5 quarts per acre
Total precision post-directed or hooded applications through layby	2 quarts per acre
Maximum preharvest application rate	2 quarts per acre

**NOTE:** Always plant into a weed free seedbed. In no-till and stale seedbed systems, always burn down existing weeds before cotton emerges. Apply a preplant burndown treatment of 16-48 fluid ounces per acre of this product.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product to Roundup Ready cotton. Follow the cleaning procedures specified on the label of the product(s) previously used. Cotton is very sensitive to many herbicides at extremely low concentrations and care should be taken to thoroughly clean all equipment prior to use.

**There are no rotational crop restrictions following applications of this product.**

**Over-the-top applications:** Up to 2.5 quarts per sprayed acre of this product may be applied by aerial or ground broadcast application equipment postemergence to Roundup Ready cotton from the ground cracking stage until layby. The **Annual and Perennial Weeds Rate Tables** in the label booklet for [INSERT BRAND NAME] should be used to determine application rate. Any single over-the-top application should not exceed 2 quarts per sprayed acre. Sequential applications of this product must be at least 7 days apart.

**With ground broadcast equipment:** apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat-fan nozzles. Check for even distribution of spray droplets.

**For aerial applications,** apply this product in 3 to 15 gallons of water per acre. **DO NOT EXCEED A MAXIMUM RATE OF 1 QUART PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR. AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.** Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions that favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

**Post-directed or hooded applications:** In addition to the over-the-top applications; up to 2 quarts per sprayed acre may be applied as a post-directed or hooded application to Roundup Ready cotton through layby. These application methods may be preferred when there is a need to direct the spray onto weeds that are growing under the crop canopy. Equipment should be used which directs the spray into the lower crop canopy so that weeds in the row are covered. For best results, make applications while weeds are small (less than 3 inches). Sequential in-crop applications must be at least 7 days apart from any other in-crop application of this product.

**ATTENTION: USE OF [INSERT BRAND NAME] IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN UNANTICIPATED RESULTS INCLUDING YIELD LOSS.**

## II. SUPPLEMENTAL LABELING FOR FOOD CROP USES

**Weeds controlled.** For specific rates of application and instructions for control of various annual and perennial weeds, refer to the "ANNUAL and PERENNIAL WEEDS RATE TABLE" sections of the label booklet. [INSERT BRAND NAME] applied at 1 to 2 quarts per acre will control or suppress the growth of the following perennial weeds and reduce crop competition: yellow and purple nutsedge, rhizome johnsongrass, common Bermudagrass, silverleaf nightshade, trumpet creeper, and redvine. Fall preharvest applications may be required for control of these perennial weeds.

Tank mixtures with other herbicides may result in reduced weed control, or may cause crop injury and are not recommended for applications where the spray contacts the cotton plant.

Some weeds with multiple germination times or suppressed (stunted) weeds may require sequential applications of this product for control.

**Preharvest applications:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton any time after layby up to 7 days prior to harvest. This product may be tank mixed with DEF<sup>TM</sup> 6, Folex<sup>TM</sup>, Gihstar, or Prep<sup>TM</sup> to enhance cotton leaf drop. Allow a minimum of 7 days between final application and harvest. No more than 2 quarts of this product per acre may be applied preharvest (between layby and seven days prior to harvest). Do not apply more than 1 quart of this product per acre by air. NOTE: This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton. Do not apply [INSERT BRAND NAME] preharvest to cotton grown for seed.

**Precautions/Restrictions:** The combined total application from crop emergence until harvest must not exceed 8 quarts per acre. Allow a minimum of 7 days between final application and harvest. Tank mixtures with other herbicides may result in reduced weed control, or may cause crop injury and are not recommended for applications where the spray contacts the cotton plant. Do not apply [INSERT BRAND NAME] preharvest to cotton grown for seed.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, ORNAMENTAL USES

[INSERT BRAND NAME]

The complete broad-spectrum postemergence professional herbicide for industrial, turf and ornamental weed control.

#### Complete Directions for Use

EPA Reg. No. 524-445

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS LIKELY TO RESULT.

Read the entire label before using this product.

Use only according to label instructions.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

#### Refillable Container Label Statement

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. IT IS INTENDED THAT REPACKAGING BE ONLY IN ACCORDANCE WITH A MONSANTO REPACKAGING OR TOLL REPACKAGING AGREEMENT.

#### Non-Refillable Container Label Statement:

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING

#### CONTENTS

1 1.0 INGREDIENTS

2 2.0 IMPORTANT PHONE NUMBERS

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

- 3     3.0     **PRECAUTIONARY STATEMENTS**
  - 3.1     Hazards to Humans and Domestic Animals
  - 3.2     Environmental Hazards
  - 3.3     Physical or Chemical Hazards
- 4     4.0     **STORAGE AND DISPOSAL**
- 5     5.0     **GENERAL INFORMATION**  
          (How This Product Works)
- 6     6.0     **MIXING**
  - 6.1     Mixing with Water
  - 6.2     Tank Mixing Procedure
  - 6.3     Mixing for Hand-Held Sprayers
  - 6.4     Surfactants
  - 6.5     Ammonium Sulfate
  - 6.6     Colorants or Dyes
- 7     7.0     **APPLICATION EQUIPMENT AND TECHNIQUES**
  - 7.1     Aerial Equipment
  - 7.2     Ground Broadcast Equipment
  - 7.3     Hand-Held or High-Volume Equipment
  - 7.4     Selective Equipment
  - 7.5     Injection Systems
  - 7.6     CDA Equipment
- 8     8.0     **INDUSTRIAL, TURF AND ORNAMENTAL USE RECOMMENDATIONS**
  - 8.1     Cut Stumps
  - 8.2     Forestry Site Preparation
  - 8.3     General Non-crop Areas and Industrial Sites
  - 8.4     Habitat Management
  - 8.5     Injection and Frill (Woody Brush and Trees)
  - 8.6     Ornamentals, Plant Nurseries, and Christmas Trees
  - 8.7     Parks, Recreational and Residential Areas
  - 8.8     Railroads
  - 8.9     Roadsides
  - 8.10    Utility Sites
- 9     9.0     **WEEDS CONTROLLED**
  - 9.1     Annual Weeds
  - 9.2     Perennial Weeds
  - 9.3     Woody Brush and Trees
- 10    10.0    **LIMIT OF WARRANTY AND LIABILITY**

#### 1.0 INGREDIENTS

##### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt.....41.0%

OTHER INGREDIENTS (including surfactant):.....59.0%

100.0%

154

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

No license granted under any non-U.S. patent(s).

#### 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT,  
CALL TOLL-FREE,

1-800-332-3111.

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE,  
CALL COLLECT, DAY OR NIGHT.

(314)-694-4000

#### 3.0 PRECAUTIONARY STATEMENTS

##### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

## WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY.  
HARMFUL IF SWALLOWED OR INHALED.

Do not get in eyes or on clothing.

Avoid breathing vapor or spray mist.

<b>FIRST AID:</b>	Call a poison control center or doctor for treatment advice.
<b>IF IN EYES</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.</li><li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li></ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"><li>• Remove individual to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.</li></ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"><li>• This product will cause gastrointestinal tract irritation. Immediately dilute by swallowing water or milk. Get medical attention. <b>NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.</b></li></ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. This product is identified as [INSERT BRAND NAME], EPA Registration No. 524-445. You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.	

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

---

**Personal Protective Equipment (PPE)**

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, shoes plus socks, and protective eyewear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**User Safety Recommendations:**

Users should:

- \* Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- \* Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**3.2 Environmental Hazards**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

**3.3 Physical or Chemical Hazards**

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

**DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.** This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

---

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical resistant (EPA Chemical Resistance Category A) 8 mils in thickness or greater composed of materials such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, shoes plus socks and protective eyewear.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

### 4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

#### FOR REFILLABLE PORTABLE CONTAINERS:

Do not reuse this container except for refill in accordance with a valid Monsanto Repackaging or Toll Repackaging Agreement. If not refilled or returned to the authorized repackaging facility, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### FOR METAL CONTAINERS (non-aerosol):

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### FOR BULK CONTAINERS:

Triple rinse emptied bulk container. Then offer for recycling or reconditioning, or dispose of in a manner approved by state and local authorities.

#### FOR PLASTIC 1-WAY CONTAINERS & BOTTLES:

Do not reuse container. Triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### FOR DRUMS:

Do not reuse container. Return container per the Monsanto container return program. If not returned, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### 5.0 GENERAL INFORMATION

#### (How This Product Works)

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid containing surfactant.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Mode of Action in Plants:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or rootstocks of perennials will not be affected by the herbicide and will continue to grow.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this label. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.



### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

**Grazing Restrictions:** This product may be used to treat undesirable vegetation in rights-of-way that pass through pastures, rangeland and forestry sites that are being grazed. For tank mix applications, comply with all restrictions appearing on the tank mix product label.

There are no grazing restrictions for the following labeled applications of this product:

- Where the spray can be directed onto undesirable woody brush and trees, such as in handgun spray-to-wet or low volume directed spray treatments.
- For tree injection or frill applications and for cut stump treatments.

For broadcast applications, observe the following restrictions:

- For application rates of greater than 6 quarts per acre, not to exceed 10 quarts per acre, no more than 15 percent of the available grazing area may be treated.
- For application rates that do not exceed 6 quarts per acre, no more than 25 percent of the available grazing area may be treated.
- All restrictions outlined above apply to lactating dairy animals. No other restrictions apply to lactating dairy animals.

These recommendations do not apply to rangeland outside of rights-of-way.

**Annual Maximum Use Rate:** The combined total of all treatments must not exceed 10.6 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rates.

#### ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

#### 6.0 MIXING

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### 6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

#### 6.2 Tank Mixing Procedure

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20- to 35-mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If ammonium sulfate is used add it slowly through the screen into the tank. Continue agitation. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding other products.
4. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
5. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
7. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
8. If a nonionic surfactant is used, add it to the spray tank before completing the filling process.
9. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water-soluble liquid followed by surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "TANK MIXING" section of "GENERAL INFORMATION" for additional precautions.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### 6.3 Mixing for Hand-Held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

##### Spray Solution

Desired Volume	Amount of [INSERT BRAND NAME]					
	0.5%	1%	1.5 %	2%	5%	10%
1 gal	0.7 oz	1.3 oz	2 oz	2.7 oz	6.5 oz	13 oz
25 gal	1 pt	1 qt	1.5 qt	2 qt	5 qt	10 qt
100 gal	2 qt	1 gal	1.5 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in backpack, knapsack or pump-up sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

#### 6.4 Surfactants

Nonionic surfactants (NIS) or wetting agents that are labeled for use with herbicides may be added to the spray solution. Do not reduce rates of this herbicide when adding surfactants. Read and carefully observe cautionary statements and other information appearing on the additives label.

When adding additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants that contain at least 70 percent active surfactant, or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active surfactant.

#### 6.5 Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, particularly under hard water conditions, drought conditions or when tank mixed with certain residual herbicides, on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides or surfactants. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance. The use of ammonium sulfate as an additive does not preclude the need for additional surfactant.

#### 6.6 Colorants or Dyes

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilution. Use colorants or dyes according to the manufacturer's recommendations.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial--Fixed Wing and Helicopter**

**Ground Broadcast Spray--**Boom or boomless systems, pull-type sprayer, floaters, pick up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held or High-Volume Spray Equipment--**Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective Equipment--**Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems--**Aerial or ground injection sprayers.

**Controlled Droplet Applicator (CDA)--**Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

#### SPRAY DRIFT MANAGEMENT

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

#### 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product plus dicamba tank mixtures may not be applied by air in California.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Avoid direct application to any body of water.

Use the recommended rates of this herbicide in 3 to 25 gallons of water per acre.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application --To avoid streaked, uneven or overlapped application, use appropriate marking devices.

#### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

#### Importance of droplet size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

#### Controlling Droplet Size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length:** For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.

113

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

- **Application height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

#### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

#### Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

#### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sunsets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### Sensitive Areas

This product should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

#### Aircraft Maintenance

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of spraying to remove residues of this product accumulated during spraying or from spills. Landing gear is most susceptible.

#### 7.2 Ground Broadcast Equipment

For broadcast ground applications, unless otherwise specified use this product at the rate of 1 to 2 quarts per acre for annual weeds, 2 to 5 quarts per acre for perennial weeds and 4 to 10 quarts per acre for woody brush

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

and trees. When used according to label directions this product will give control or partial control of herbaceous weeds, woody brush and trees listed in the "WEEDS CONTROLLED" section of this label.

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. Broadcast applications with hand-held spray gun may require spray volumes higher than 40 gallons per acre for uniform coverage. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat-fan nozzles. Check for even distribution of spray droplets.

#### 7.3 Hand-Held or High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only.

For control of weeds listed in the "ANNUAL WEEDS" section of "WEEDS CONTROLLED", apply a 0.5-percent solution of this product to weeds less than 6 inches in height or runner length. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds.

For best results, use a 2 percent solution on harder-to-control perennials, such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

Unless otherwise specified, use the recommended rates listed in the following "APPLICATION RATES" table for various methods of foliar application using high volume, backpack, knapsack and similar types of hand-held equipment. When used according to label directions this product will give control or partial control of herbaceous weeds, woody brush and trees listed in the "WEEDS CONTROLLED" section of this label.

#### APPLICATION RATES

APPLICATION	[INSERT BRAND NAME]	SPRAY VOLUME GALLONS/ACRE
<u>SPRAY-TO-WET</u>		
Handgun, or Backpack	1 to 4 % by volume	spray-to-wet*
<u>LOW VOLUME DIRECTED SPRAY</u>		
Backpack	9 to 18 % by volume	15 to 25**
Modified High Volume	3.5 to 7 % by volume	40 to 60**

\*For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff.

\*\*For low volume directed spray applications, coverage should be uniform with at least 50 to 75 percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results. Low volume directed applications with backpacks work best when treating weeds and brush less than 10 feet tall. For taller weeds and brush, high volume handguns can be modified by reducing nozzle size and spray pressure to produce a low

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

volume directed spray. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop

#### 7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label.

**AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION, AS SERIOUS INJURY OR DEATH IS LIKELY TO OCCUR.**

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation is likely to result in discoloration, stunting or destruction.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

#### Recirculating Spray System

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

#### Shielded and Hooded Applicators

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide. Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

#### Wiper Applicators and Sponge Bars

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Do not add surfactant to the herbicide solution.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.



### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

**For Rope or Sponge Wick Applicators**—Solutions ranging from 33 to 75 percent of this product in water may be used.

**For Panel Applicators and Pressure-feed Systems**—Solutions ranging from 33 to 100 percent of this product in water may be used.

#### 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the undiluted concentrate of other products when using injection systems unless specifically recommended.

#### 7.6 CDA Equipment

The rate of this product applied per acre by controlled droplet application (CDA) equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 4 quarts per acre).

CDA equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction is likely to result.

### 8.0 INDUSTRIAL, TURF AND ORNAMENTAL USE RECOMMENDATIONS

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds listed in the annual, perennial and woody brush tables. Refer also to the "SELECTIVE EQUIPMENT" section.

#### 8.1 Cut-Stumps

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly-cut surface **immediately after cutting**. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

**DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP.** Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

#### 8.2 Forestry Site Preparation

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

This product is recommended for the control or partial control of woody brush, trees and herbaceous weeds in forestry. This product is also recommended for use in preparing or establishing wildlife openings within these sites and maintaining logging roads.

This product is recommended for use in site preparation prior to planting any tree species, including Christmas trees, eucalyptus, hybrid tree cultivars and silvicultural nursery sites.

For applications using different types of equipment, see "APPLICATION RATES" table in "HAND-HELD EQUIPMENT" section of this label.

**TANK MIXTURES:** Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture.

**NOTE:** For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

Any recommended rate of this product may be used in a tank mix with the following products for forestry site preparation.

<u>Product</u>	<u>Broadcast Rate</u>
Arsenal Applicators Concentrate	2 to 16 fluid ounces per acre
Escort™	0.5 to 3.5 ounces per acre
Chopper™	4 to 32 fluid ounces per acre
Garlon 4	1 to 4 quarts per acre
Oust™	1 to 4 ounces per acre

<u>Product</u>	<u>Spray-To-Wet Rates</u>
Arsenal Applicators Concentrate	0.03 to 0.5 percent by volume

<u>Product</u>	<u>Low Volume Directed Spray Rates</u>
Arsenal Applicators Concentrate	0.1 to 0.5 percent by volume

For control of herbaceous weeds, use the lower recommended tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher recommended rates.

Do not apply this product as an over-the-top broadcast spray for forestry conifer or hardwood release.

#### 8.3 General Non-Crop Areas and Industrial Sites

Use in areas such as airports, apartment complexes, Christmas tree farms, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, ornamental nurseries, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, substations, warehouse areas, other public areas, and similar industrial and non-crop sites.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### General Weed Control, Trim-and-Edge, Bare Ground

This product may be used in general non-crop areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in non-crop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank mixed with the following products. Refer to these products' labels for approved non-crop sites and application rates.

Arsenal™	Plateau™
Clarity	Princep™DF
Barricade™ 65WG	Princep™ Liquid
Diuron	Ronstar™ 50WP
Endurance™	Sahara™
Escort™	Simazine
Garlon™ 3A	Spike 80DF
Garlon 4	Surflan™
Hyvar X	Telar™
Karmex™ DF	Vanquish™
Krovar™ I DF	2,4-D
Manage®	
Oust	
Pendulum™ 3.3 EC	
Pendulum WDG	

This product plus dicamba tank mixtures may not be applied by air in California.

#### Brush Control Tank Mixtures

Tank mixtures of this product may be used to increase the spectrum of control for herbaceous weeds, woody brush and trees. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture. Any recommended rate of this product may be used in a tank mix.

For control of herbaceous weeds, use the lower recommended tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher recommended rates.

**NOTE:** For side trimming treatments, it is recommended that this product be used alone or in tank mixture with Garlon 4.

PRODUCT	BROADCAST RATE
Arsenal 2WSL	6 to 32 fluid ounces per acre
Escort	1 to 2 ounces per acre
Garlon 3A*, Garlon 4	1 to 4 quarts per acre

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

PRODUCT	SPRAY-TO-WET RATES
Arsenal 2WSL	0.06 to 0.12% by volume
Escort	1 to 2 ounces per acre

PRODUCT	LOW VOLUME DIRECTED SPRAY RATES
Arsenal 2 WSL	0.1 to 0.5% by volume
Escort	1 to 2 ounces per acre

\* Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

#### Chemical Mowing - Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

#### Chemical Mowing - Annuals

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

#### *Bromus* Species and Medusahead in Pastures and Rangelands

***Bromus* species.** This product may be used to treat downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*) and cheatgrass (*Bromus secalinus*) found in industrial, rangeland and pasture sites. Apply 8 to 16 fluid ounces of this product per acre on a broadcast basis.

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses can become reestablished on the site.

**Medusahead.** To treat medusahead, apply 16 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4-leaf stage. Applications may be made in the fall or spring.

Applications to brome and medusahead may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre. When applied as directed in this label, there are no grazing restrictions.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### **Dormant Turfgrass**

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup.

Apply 8 to 64 fluid ounces of this product per acre. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust or Outrider in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for dormant Bermudagrass and bahiagrass treatments.

#### **Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. DO NOT apply more than 16 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

#### **Turfgrass Renovation, Seed, or Sod Production**

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as Bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.

### **8.4 Habitat Management**

#### **Habitat Restoration and Management**

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

121

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### Wildlife Food Plots

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

#### 8.5 Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 mL) of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50 to 100 percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100 percent concentration of this product. For best results, application should be made during periods of active growth and after full leaf expansion.

#### 8.6 Ornamentals, Plant Nurseries, and Christmas Trees

##### Post-Directed, Trim-and-Edge

This product may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. **UNLESS OTHERWISE DIRECTED, THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES.** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

##### Site Preparation

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

##### Wiper Applications

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established eucalyptus or poplar trees. See the "SELECTIVE EQUIPMENT" section of this label for further information about the proper use of wiper applicators.

##### Greenhouse/Shadehouse

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

#### 8.7 Parks, Recreational and Residential Areas

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, and paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section apply to park and recreational areas.

#### 8.8 Railroads

All of the instructions in the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section apply to railroads.

##### Bare ground, Ballast and Shoulders, Crossings, Spot Treatments

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

**TANK MIXTURES:** This product may be tank mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments:

Arsenal	Krovar I DF
Clarity	Oust
Diuron	Sahara
Escort	Spike™
Garlon 3A	Telar
Garlon 4	Vanquish
Hyvar™ X	2,4-D

##### Brush Control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 0.75 to 2 percent solution of this product when using high-volume spray-to-wet applications. Apply a 5 to 10 percent solution of this product when using low volume directed sprays for spot treatment.

**TANK MIXTURES:** This product may be mixed with the following products for enhanced control of woody brush and trees:

Arsenal	Garlon 4
Escort	Tordon™ K
Garlon 3A	

##### Bermudagrass Release

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 1 to 3 pints of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

**TANK MIXTURES:** This product may be tank mixed with Oust. If tank mixed, use no more than 1 to 3 pints of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedge	Raspberry
Dallisgrass	Trumpet creeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

#### 8.9 Roadsides

All of the instructions in the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section apply to roadsides.

**TANK MIXTURES:** This product may be tank mixed with the following products for shoulder, guardrail, spot and bare ground treatments:

Clarity	Princep Liquid
Diuron	Ronstar 50WP
Endurance	Sahara
Escort	Simazine
Krovar I DF	Surflan
Oust	Telar
Pendulum 3.3 EC	Vanquish
Pendulum WDG	2,4-D
Princep DF	

See the "GENERAL NON-CROP AREAS AND INDUSTRIAL SITES" section of this label for general instructions for tank mixing.

#### Shoulder Treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.



### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

#### Guardrails and Other Obstacles to Mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

#### Spot Treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

#### Release of Bermudagrass or Bahiagrass

##### Dormant Applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant Bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. This product may also be tank-mixed with Outrider or Oust for residual control. Tank mixtures of this product with Oust may delay greenup.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 8 to 64 fluid ounces of this product in a tank mixture with 0.75 to 1.3 ounces Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in green up and minimize injury, add no more than 1 ounce of Oust per acre on Bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

##### Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 1 to 3 pints of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

**TANK MIXTURES:** This product may be tank mixed with Outrider for control or partial control of Johnsongrass and other weeds listed in the Outrider label. Use 8 to 32 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

This product may be tank mixed with Oust. If tank-mixed, use no more than 1 to 2 pints of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpet creeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

#### Actively Growing Bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full greenup or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

**TANK MIXTURES:** This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider label in actively growing bahiagrass. Apply 1.5 to 5 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well established bahiagrass.

A tank mixture of this product plus Oust may be used. Apply 6 fluid ounces of this product plus 0.25 ounce of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

#### 8.10 Utility Sites

In utilities, this product is recommended for use along electrical power, pipeline and telephone rights-of-way, and in other sites associated with these rights-of-way, such as substations, roadsides, railroads or similar rights-of-way that run in conjunction with utilities.

This product is also recommended for use in preparing or establishing wildlife openings within these sites, maintaining access roads and for side trimming along utility rights-of-way.

**TANK MIXTURES:** Tank mixtures of this product may be used to increase the spectrum of control for herbaceous weeds, woody brush and trees. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture. Any recommended rate of this product may be used in a tank mix.

For control of herbaceous weeds, use the lower recommended tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher recommended rates.

**NOTE:** For side trimming treatments, it is recommended that this product be used alone or in tank mixture with Garlon 4.

<u>Product</u>	<u>Broadcast Rate</u>	<u>Use Sites</u>
Arsenal 2WSL	6 to 32 fluid ounces per acre	Utility Sites

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Escort	1 to 2 ounces per acre	Utility Sites
Garlon 3A*, Garlon 4	1 to 4 quarts per acre	Utility Sites / Side Trimming
Oust	1 to 4 ounces per acre	Utility Sites

Product	Spray-To-Wet Rates	Use Sites
Arsenal 2WSL	0.06 to 0.1 percent by volume	Utility Sites
Escort	1 to 2 ounces per acre	Utility Sites

Product	Low Volume Directed Spray Rates	Use Sites
Arsenal 2WSL	0.1 to 0.5 percent by volume	Utility Sites
Escort	1 to 2 ounces per acre	Utility Sites

\* Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

#### Bare Ground, Trim-and-Edge

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects, spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank mixed with the following products. Refer to these products' labels for approved non-crop sites and application rates.

Arsenal	Plateau™
Banvel	Princep™DF
Barricade™ 65WG	Princep™ Liquid
Diuron	Ronstar™ 50WP
Endurance™	Sahara™
Escort	Simazine
Garlon 3A	Surflan™

#### 9.0 WEEDS CONTROLLED

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (non-cultivated) area.

Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Refer to the following label sections for recommended rates for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 5 to 10 quarts per acre for enhanced results.

#### 9.1 Annual Weeds

Use 1 quart per acre if weeds are less than 6 inches in height or runner length and 1.5 quarts to 4 quarts per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions.

For spray-to-wet applications, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 1 to 2 percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall.

#### WEED SPECIES

---

Annoda, spurred  
Barley\*  
Barnyardgrass\*  
Bittercress\*  
Black nightshade\*  
Bluegrass, annual\*  
Bluegrass, bulbous\*  
Bassia, fivehook  
Brome, downy\*  
Brome, Japanese\*  
Browntop panicum\*  
Buttercup\*  
Carolina foxtail\*  
Carolina geranium  
Castor bean  
Cheatgrass\*  
Cheeseweed (*Malva parviflora*)  
Chervil\*  
Chickweed\*  
Cocklebur\*  
Copperleaf, hophornbeam  
Corn\*  
Corn speedwell\*  
Crabgrass\*  
Dwarf dandelion\*  
Eastern manna grass\*  
Eclipta\*  
Fall panicum\*  
Falsedandelion\*  
Falseflax, smallseed\*  
Fiddleneck  
Field pennycress\*  
Filaree  
Fleabane, annual\*  
Fleabane, hairy (*Conyza bonariensis*)\*  
Fleabane, rough\*  
Florida pusley

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Foxtail\*  
Goatgrass, jointed\*  
Goosegrass  
Grain sorghum (milo)\*  
Groundsel, common\*  
Hemp sesbania  
Henbit  
Horseweed/Marestail (*Conyza canadensis*)  
Itchgrass\*  
Johnsongrass, seedling  
Junglerice  
Knotweed  
Kochia  
Lamb's-quarters\*  
Little barley\*  
London rocket\*  
Mayweed  
Medusahead\*  
Morningglory (*Ipomoea spp*)  
Mustard, blue\*  
Mustard, tansy\*  
Mustard, tumble\*  
Mustard, wild\*  
Oats  
Pigweed\*  
Plains/Tickseed coreopsis\*  
Prickly lettuce\*  
Puncturevine  
Purslane, common  
Ragweed, common\*  
Ragweed, giant  
Red rice  
Russian thistle  
Rye\*  
Ryegrass\*  
Sandbur, field\*  
Shattercane\*  
Shepherd's-purse\*  
Sicklepod  
Signalgrass, broadleaf\*  
Smartweed, ladythumb\*  
Smartweed, Pennsylvania\*  
Sowthistle, annual  
Spanishneedles  
Speedwell, purslane\*  
Sprangletop\*  
Spurge, annual  
Spurge, prostrate\*  
Spurge, spotted\*  
Spurry, umbrella\*  
Starthistle, yellow  
Stinkgrass\*  
Sunflower\*  
Tea weed/ Prickly sida  
Texas panicum\*

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Velvetleaf  
Virginia copperleaf  
Virginia pepperweed\*  
Wheat\*  
Wild oats\*  
Witchgrass\*  
Woolly cupgrass\*  
Yellow rocket

\*When using field broadcast equipment (aerial applications or boom sprayers using flat-fan nozzles) these species will be controlled or partially controlled using 1 pint of this product per acre. Applications must be made using 3 to 10 gallons of carrier volume per acre. Use nozzles that ensure thorough coverage of foliage and treat when weeds are in an early growth stage.

#### 9.2 Perennial Weeds

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the recommended range.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed spot treatments, apply a 5 to 10 percent solution of this product.

Allow 7 or more days after application before tillage.

Weed Species	Rate (QT/A)	Hand-Held % Solution
Alfalfa*	1	2
Alligatorweed*	4	1.5
Anise (fennel)	2 - 4	1 - 2
Bahiagrass	3 - 5	2
Beachgrass, European ( <i>Ammophila arenaria</i> )	-	5
Bentgrass*	1.5	2
Bermudagrass	5	2
Bermudagrass, water (knotgrass)	1.5	2
Bindweed, field	4 - 5	2
Bluegrass, Kentucky	2	2
Blueweed, Texas	4 - 5	2
Brackenfern	3 - 4	1-1.5
Bromegrass, smooth	2	2
Bursage, woolly-leaf	--	2
Canarygrass, reed	2 - 3	2
Cattail	3 - 5	2
Clover, red, white	3 - 5	2
Cogongrass	3 - 5	2
Dallisgrass	3 - 5	2
Dandelion	3 - 5	2
Dock, curly	3 - 5	2
Dogbane, hemp	4	2
Fescue (except tall)	3 - 5	2

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Fescue, tall	1 - 3	2
German ivy	2 - 4	1 - 2
Guineagrass	3	1
Horsenettle	3 - 5	2
Horseradish	4	2
Iceplant	2	1.5-2
Jerusalem artichoke	3 - 5	2
Johnsongrass	2 - 3	1
Kikuyugrass	2 - 3	2
Knapweed	4	2
Lantana	--	1-1.25
Lespedeza	3 - 5	2
Milkweed, common	3	2
Muhly, wirestem	2	2
Mullein, common	3 - 5	2
Napiergrass	3 - 5	2
Nightshade, silverleaf	2	2
Nutsedge, purple, yellow	3	1 - 2
Orchardgrass	2	2
Pampasgrass	3 - 5	1.5-2
Paragrass	3 - 5	2
Pepperweed, perennial	4	2
Phragmites*	3 - 5	1 - 2
Poison hemlock	2 - 4	1 - 2
Quackgrass	2 - 3	2
Redvine*	2	2
Reed, giant	4 - 5	2
Ryegrass, perennial	2 - 3	1
Smartweed, swamp	3 - 5	2
Spurge, leafy*	--	2
Sweet potato, wild*	--	2
Thistle, artichoke	2 - 3	1 - 2
Thistle, Canada	2 - 3	2
Timothy	2 - 3	2
Torpedograss*	4 - 5	2
Trumpet creeper*	2 - 3	2
Vaseygrass	3 - 5	2
Velvetgrass	3 - 5	2
Wheatgrass, western	2 - 3	2

\*Partial control

#### 9.3 Woody Brush and Trees

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed-spray spot treatments, apply a 5 to 10 percent solution of this product.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

Weed Species	Broadcast Rate (QT/A)	Hand-Held Spray-to-Wet % Solution
Alder	3 - 4	1-1.5
Ash*	2 - 5	1 - 2
Aspen, quaking	2 - 3	1-1.5
Bearclover (Bearmat)*	2 - 5	1 - 2
Beech*	2 - 5	1 - 2
Birch	2	1
Blackberry	3 - 4	1-1.5
Blackgum	2 - 5	1 - 2
Bracken	2 - 5	1 - 2
Broom; French, Scotch	2 - 5	1.5-2
Buckwheat, California*	2 - 4	1 - 2
Cascara*	2 - 5	1 - 2
Catsclaw*	--	1-1.5
Ceanothus*	2 - 5	1 - 2
Chamise*	2 - 5	1
Cherry; bitter, black, pin	2 - 3	1-1.5
Coyote brush	3 - 4	1.5-2
Deerweed	2 - 5	1
Dogwood*	2 - 5	1 - 2
Elderberry	2	1
Elm*	2 - 5	1 - 2
Eucalyptus	--	2
Gorse*	2 - 5	1 - 2
Hasardia*	2 - 4	1 - 2
Hawthorn	2 - 3	1-1.5
Hazel	2	1
Hickory*	2 - 5	1 - 2
Honeysuckle	3 - 4	1-1.5
Hornbeam, American*	2 - 5	1 - 2
Kudzu	4	2
Locust, black*	2 - 4	1 - 2
Madrone resprouts*	--	2
Manzanita*	2 - 5	1 - 2
Maple, red	2 - 4	1-1.5
Maple, sugar	--	1-1.5
Monkey flower*	2 - 4	1 - 2
Oak; black, white*	2 - 4	1 - 2
Oak, post	3 - 4	1-1.5
Oak; northern, pin	2 - 4	1-1.5
Oak, Scrub*	2 - 4	1-1.5
Oak; southern red	2 - 3	1-1.5
Peppertree, Brazilian (Florida holly)*	2 - 5	1 - 2
Persimmon*	2 - 5	1 - 2

B2



### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Pine	2 - 5	1 - 2
Poison ivy	4 - 5	2
Poison oak	4 - 5	2
Poplar, yellow*	2 - 5	1 - 2
Redbud, eastern	2 - 5	1 - 2
Rose, multiflora	2	1
Russian olive*	2 - 5	1 - 2
Sage, black	2 - 4	1
Sage, white*	2 - 4	1 - 2
Sage brush, California	2 - 4	1
Salmonberry	2	1
Saltcedar*	2 - 5	1 - 2
Sassafras*	2 - 5	1 - 2
Sourwood*	2 - 5	1 - 2
Sumac; laurel, poison, smooth, sugarbush, winged*	2 - 4	1 - 2
Sweetgum	2 - 3	1-1.5
Swordfern*	2 - 5	1 - 2
Tallowtree, Chinese	--	1
Tan oak resprouts*	--	2
Thimbleberry	2	1
Tobacco, tree*	2 - 4	1 - 2
Toyon*	-	2
Trumpet creeper	2 - 3	1-1.5
Vine maple*	2 - 5	1 - 2
Virginia creeper	2 - 5	1 - 2
Waxmyrtle, southern*	2 - 5	1 - 2
Willow	3	1
Yerbasanta*	-	2

\*Partial control

#### 10.0 LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

### III. MAIN LABEL FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

[INSERT BRAND NAME], Manage, Outrider, Monsanto and Vine symbol are trademarks of Monsanto Technology LLC.

Escort, Hyvar, Karmex, Krovar, Oust, and Telar are trademarks of E.I. duPont de Nemours & Co. Inc.

Garlon, Spike, Surlan and Tordon are trademarks of Dow AgroSciences

Barricade, Endurance, Princep and Vanquish are trademarks of Sygenta Group

Ronstar is a trademark of Aventis Group.

Arsenal, Clarity, Chopper, Pendulum, Plateau, and Sahara are trademarks of BASF Corporation.

Banvel is a trademark of Micro-Flo Corp.

No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-445

---

In case of an emergency involving this product,  
or for medical assistance,  
Call Collect, day or night, (314) 694-4000.

---

©[DATE] MONSANTO COMPANY  
ST. LOUIS, MISSOURI, 63167 U.S.A.

#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, & ORNAMENTAL USES

Table of Contents: Industrial, Turf, and Ornamental Supplemental labeling

	Name	Approval Date
A	FOR USE FOR SELECTIVE WEED CONTROL ON [INSERT BRAND NAME] TOLERANT PURE GOLD® TALL FESCUE AND AURORA GOLD® FINE FESCUE SELECTIONS.	New for this Reg. No.*
B	[INSERT BRAND NAME] HERBICIDE AND TANK MIXTURES FOR NON-CROP AREAS, INCLUDING RAILROAD RIGHTS-OF-WAY, SUBSTATIONS, AIRPORTS, INDUSTRIAL PLANTS, ROADSIDES, STORAGE AREAS AND SIMILAR SITES	9-Dec-1993
C	AERIAL APPLICATIONS IN CALIFORNIA	12/29/2000
D	FOR GROUND AND AERIAL APPLICATION TO BRUSH AND CHAPARRAL IN CALIFORNIA ONLY	New for this Reg. No.*
E	[INSERT BRAND NAME] HERBICIDE FOR CONIFER RELEASE	New for this Reg. No.*
F	BROADCAST APPLICATIONS FOR WEED CONTROL IN CHRISTMAS TREE PLANTATIONS IN THE STATES OF WASHINGTON AND OREGON ONLY	15-Dec-1993

\* These uses are already approved on EPA Reg. No. 524-475 or 524-308.

135

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR [INSERT BRAND NAME] BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using [INSERT BRAND NAME] as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

**[INSERT BRAND NAME]**

Herbicide

EPA Reg. No. 524-445

Keep out of reach of children.

### WARNING!      AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

[INSERT BRAND NAME] is a registered trademark of Monsanto Technology LLC.

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

---

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for [INSERT BRAND NAME] for essential product performance information.

---

[INSERT SPECIFIC USE DIRECTIONS HERE]

---

Read the "Limit of Warranty and Liability" in the label booklet for [INSERT BRAND NAME] before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© [DATE] MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

**A. FOR USE FOR SELECTIVE WEED CONTROL ON [INSERT BRAND NAME] TOLERANT PURE GOLD® TALL FESCUE AND AURORA GOLD® FINE FESCUE SELECTIONS.**

**USE DIRECTIONS**

**[INSERT BRAND NAME] Tolerant Tall Fescue Selections For Seed Production**

Use this product on Pure Gold tolerant tall and Aurora Gold fine fescue grown for seed production only.

This product may be applied at rates of 4 to 16 fluid ounces per acre as a postemergence spray on [INSERT BRAND NAME] tolerant tall fescue selections. See the label booklet for application instructions, rate recommendations, weeds controlled and proper growth stage of weeds.

When applied postemergence, this product will control or suppress the following weeds: annual bluegrass, mustards, downy brome, cheatgrass, chickweed, pennycress, fleabane, shepherd's-purse, sowthistle, wild oat, dandelion, quackgrass, and Canada thistle. See the [INSERT BRAND NAME] label booklet for a complete list of weeds controlled or suppressed.

**NOTE:** The recommended rate for this use will limit the level of control of certain species of weeds.

**NOTE:** Some crop discoloration and yellowing may occur at higher rates of application with [INSERT BRAND NAME] tolerant tall and fine fescue selections. Reduction in stand of these selections may occur under stress conditions.

**Timing Of Applications**

Applications can be made 6 weeks after germination and to established crops after growth resumes in the Fall until onset of dormancy and in the Spring after dormancy break until 60 days prior to harvest.

Avoid spraying during or within two weeks after periods when air temperatures fall below 25°F.

Remove domestic livestock from the seed production field prior to application. Wait 60 days after making this application before grazing or harvesting the treated area.

**NOTE:** Only two applications per crop growth cycle may be made to any one site. If two applications are required, only one Fall and one Spring application may be made during one 12 month cycle.

**B. [INSERT BRAND NAME] HERBICIDE AND TANK MIXTURES FOR NON-CROP AREAS, INCLUDING RAILROAD RIGHTS-OF-WAY, SUBSTATIONS, AIRPORTS, INDUSTRIAL PLANTS, ROADSIDES, STORAGE AREAS AND SIMILAR SITES**

**USE DIRECTIONS**

Do not allow spray mixtures of this herbicide to mist, drip, drift or splash onto desirable vegetation since injury or destruction may occur. Do not apply when wind or other conditions favor drift.

See the "WEEDS CONTROLLED;" section of the [INSERT BRAND NAME] label booklet for rate recommendations. For difficult to control species, where dense stands occur, or where conditions for control are not ideal, 5 to 10 quarts per acre of this product may be used for improved results.

## TANK MIXTURES

This product provides control of the emerged weeds listed in the label booklet. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

The following list of products may be tank mixed with this product. Any recommended rate of this product may be used in a tank mixture with these products.

<u>Tank-mix Product</u>	<u>Rate per Acre</u>
Arsenal <sup>TM</sup> *	0.5 to 4 pints
Banvel	1 to 4 pints
2,4-D	0.5 to 1 pound
Garlon <sup>TM</sup> 3A	1 to 6 pints
Garlon 4	1 to 6 pints
Diuron	4 to 8 pounds
Diuron + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Diuron + Garlon 3A	4 to 10 pounds + 1 to 2 pints
Diuron + Garlon 4	4 to 10 pounds + 1 to 2 pints
Hyvar <sup>TM</sup> X	4 to 8 pounds
Hyvar X + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Hyvar X + Garlon 3A	4 to 8 pounds + 1 to 2 pints
Hyvar X + Garlon 4	4 to 8 pounds + 1 to 2 pints
Krovar <sup>TM</sup> I DF	4 to 6 pounds
Krovar I DF + 2,4-D	4 to 6 pounds + 0.5 to 1 pound
Krovar I DF + Garlon 3A	4 to 6 pounds + 1 to 2 pints
Krovar I DF + Garlon 4	4 to 6 pounds + 1 to 2 pints
Oust <sup>TM</sup>	2 to 6 ounces
Oust + 2,4-D	2 to 6 ounces + 0.5 to 1 pound
Oust + Garlon 3A	2 to 6 ounces + 1 to 2 pints
Oust + Garlon 4	2 to 6 ounces + 1 to 2 pints
Spike <sup>TM</sup> 80W	2 to 5 pounds
Spike 80W + 2,4-D	2 to 5 pounds + 0.5 to 1 pound
Spike 80W + Garlon 3A	2 to 5 pounds + 1 to 2 pints
Spike 80W + Garlon 4	2 to 5 pounds + 1 to 2 pints

Refer to the individual product labels for specific non-crop sites, rates, carrier volumes and precautionary statements.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

Maintain good agitation at all times during the mixing process. Ensure that the tank-mix products are well mixed with the spray solution before adding this product.

Mix only the quantity of spray solution that can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control.

#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

When used in combination as recommended by Monsanto Company, the liability of Monsanto shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the Monsanto product in such combination use.

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for [INSERT BRAND NAME] before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

<sup>TM</sup>Arsenal is a trademark of American Cyanamid Company.

<sup>TM</sup>Banvel is a trademark of Sandoz Crop Protection Corporation.

<sup>TM</sup>Garlon and Spike are trademarks of Dow AgroSciences LLC

<sup>TM</sup>Hyvar, Krovar and Oust are trademarks of E. I duPont de Nemours and Company.

### C. AERIAL APPLICATIONS IN CALIFORNIA

#### USE DIRECTIONS

Aerial applications of this product are allowed in the following situations:

1. Prior to the emergence or transplanting of labeled crops
2. Aid to burning for establishment and maintenance of fuel breaks
3. Establishing fire perimeters and black lines
4. Aid to prescribed burning
5. Along fire roads
6. Range conversion
7. Habitat restoration and management
8. Wildlife food plots

Apply 1 to 5 quarts of this product in 5 to 15 gallons of water per acre using aerial (helicopter only) applications.

To broaden the spectrum of control, Garlon<sup>TM</sup> 4 may be tank mixed with this product at the rate of 0.5 to 2 quarts per acre. The rate of Garlon should not exceed one-half of the rate of this product (e.g. 1 quart of Garlon to 2 quarts of this product) for best results.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

**AVOID DRIFT - DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH WILL ALLOW DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED**

#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops.

1. Do not apply within 100 feet of any desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within a minimum of 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.
5. APPLY BY AIR ONLY TO NONRESIDENTIAL AREAS.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure. Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

**Ensure uniform application** - To avoid streaking, uneven, or overlapped application, use appropriate marking devices.

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of spraying to remove residues of this product accumulated during spraying or from spills. Landing gear are most susceptible.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for [INSERT BRAND NAME] before using this product. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

Garlon™ is a trademark of Dow AgroSciences LLC

#### D. FOR GROUND AND AERIAL APPLICATIONS TO BRUSH AND CHAPARRAL IN CALIFORNIA ONLY

##### USE DIRECTIONS

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Nonionic surfactants which are labeled for use with herbicides may be used to improve wetting of foliage. Do not reduce rates of [INSERT BRAND NAME] when adding surfactant. Read and carefully observe surfactant rates, cautionary statements, and other information appearing on the surfactant label.



#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

**TIMING OF APPLICATION:** Apply this product as a broadcast spray when plants are actively growing for partial control of undesirable vegetation listed on this label. Best results are obtained when application is made in the spring to early summer when brush species are at a high moisture content and flowering.

This product may be used as recommended for:

- Aid to burning treatment to establish and maintain fuel breaks
- Establishing fire perimeters and black lines
- Aid to prescribed burning
- Along fire roads and rights-of-way
- Range conversion
- Site preparation in forestry

**APPLICATION RECOMMENDATION:** Apply 2 quarts of this product per acre for partial control of the following emerged brush and chaparral species:

Ceanothus	Sage
Ceanothus spp.	Salvia spp.
Chamise	Scrub oak
Adenostoma fasciculatum	Quercus dumosa

Ground applications should be applied in 3 to 40 gallons of total spray solution per acre.

Aerial applications (helicopter only) should be applied in 3 to 15 gallons of total spray solution per acre.

Avoid direct application to any body of water.

**AVOID DRIFT—DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

For aerial application of this product, please see the supplemental label directions for aerial application in California.

#### E. [INSERT BRAND NAME] HERBICIDE FOR CONIFER RELEASE

##### USE DIRECTIONS

##### AERIAL APPLICATION

This product may be applied using aerial spray equipment for conifer release treatments. See the 'APPLICATION EQUIPMENT and TECHNIQUES' part of the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of the label booklet for [INSERT BRAND NAME] herbicide for information on how to properly spray this product by air.

**DO NOT APPLY THIS PRODUCT BY AIR TO RIGHTS-OF-WAY SITES IN THE STATE OF CALIFORNIA.**

##### CONIFER RELEASE

For release, apply only where conifers have been established for more than one year. Vegetation should not be disturbed prior to treatment or until visual symptoms appear after treatment. Symptoms of treatment are slow to appear, especially in woody species treated in late fall. Injury may occur to conifers treated for release.

#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

especially where spray patterns overlap or the higher rates are applied or when applications are made during periods of active conifer growth. **Do not use additional surfactant with conifer release applications.**

Applications must be made after formation of final conifer resting buds in the fall or prior to initial bud swelling in spring. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Use the following rates for conifer release to control or partially control the weeds listed in the "WEEDS CONTROLLED" section of the label booklet for [INSERT BRAND NAME] herbicide.

**For release of the following conifer species:**

<b>Douglas Fir</b>	<b>Pines*</b>
<i>Pseudotsuga menziesii</i>	<i>Pinus spp.</i>
<b>Fir</b>	<b>Spruce</b>
<i>Abies spp.</i>	<i>Picea spp.</i>
<b>Hemlock</b>	
<i>Tsuga spp.</i>	

\*Includes all species except eastern white pine, loblolly pine or slash pine.

Apply 1.5 to 2 quarts of this product per acre except in Washington and Oregon, west of the crest of the Cascade Mountains. For spring treatments west of the crest of the Cascade Mountains, apply 1 quart of this product per acre before conifer bud swell for control of annual weeds. For fall treatments in Washington and Oregon, west of the crest of the Cascade Mountains, apply 1 to 1.5 quarts of this product per acre before any major leaf drop of deciduous species.

For release of western hemlock apply 1 quart of this product per acre.

**For release of the following conifer species:**

<b>Loblolly pine</b>	<b>Slash pine</b>
<i>Pinus taeda</i>	<i>Pinus elliotii</i>
<b>Eastern white pine</b>	
<i>Pinus strobus</i>	

**Late Season Application**—Apply 1.5 to 2 quarts of this product in a minimum of 5 gallons of spray solution per acre during early autumn. Applications made prior to September 1 or when conditions are conducive to rapid growth of conifers will result in potential for increased injury in the form of tip and/or needle burn. Injury may decrease with later application. Some autumn colors are acceptable at time of application. Apply prior to frost or leaf drop of undesirable plants. Applications made according to label direction will release loblolly pine, eastern white pine and slash pine by reducing competition from the following species:

<b>Ash</b>	<b>Oak, white</b>
<i>Fraxinus spp.</i>	<i>Quercus alba</i>
<b>Cherry, black</b>	<b>Persimmon</b>
<i>Prunus serotina</i>	<i>Diospyros spp.</i>
<b>Cherry, pin</b>	<b>Poplar, yellow</b>
<i>Prunus pensylvanica</i>	<i>Liriodendron tulipifera</i>
<b>Elm</b>	<b>Sassafras</b>
<i>Ulmus spp.</i>	<i>Sassafras albidum</i>
<b>Hawthorn</b>	<b>Sourwood</b>
<i>Crataegus spp.</i>	<i>Oxydendrum arboreum</i>
<b>Locust, black</b>	<b>Sumac, poison</b>
<i>Robina pseudoacacia</i>	<i>Rhus vernix</i>
<b>Maple, red</b>	<b>Sumac, smooth</b>
<i>Acer rubra</i>	<i>Rhus glabra</i>
<b>Oak, black</b>	<b>Sumac, winged</b>
<i>Quercus velutina</i>	<i>Rhus copallina</i>
<b>Oak, post</b>	<b>Sweetgum</b>
<i>Quercus stellata</i>	<i>Liquidambar styraciflua</i>

#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

##### **Oak, southern red** *Quercus falcata*

Apply only to those sites where woody brush and trees listed in this label constitute the majority of the undesirable species.

##### **[INSERT BRAND NAME] HERBICIDE PLUS OUST™ TANK MIXTURES FOR CONIFER RELEASE FROM HERBACEOUS WEEDS**

To release loblolly pines from herbaceous weeds, tank mixtures of this product with Oust will provide control of annual weeds listed in the "WEEDS CONTROLLED" section of the label booklet for [INSERT BRAND NAME] herbicide and the Oust label, and partial control of the perennial weeds listed below.

Apply 16 to 24 fluid ounces of [INSERT BRAND NAME] herbicide with 2 to 4 ounces of Oust in 10 to 30 gallons of spray solution per acre. Make application to actively growing weeds as a broadcast spray over the top of the young loblolly pines.

This product plus Oust tank mixtures may not be applied by air in California.

This tank mixture may be applied using aerial equipment. When applying by air, use the recommended rate in 5 to 15 gallons of spray solution per acre.

For control of annual weeds below 12 inches in height (or runner length on annual vines), use the low rates of both products. Use the higher rates of both products when annual weeds are in more advanced stages of growth and approaching flower or seed formation.

Use the higher rates of both products for partial control of the following perennial weeds. Use the lower rates for suppression of growth.

<b>Bahiagrass</b>	<b>Johnsongrass**</b>
<i>Paspalum notatum</i>	<i>Sorghum halepense</i>
<b>Broomsedge</b>	<b>Poorjoe**</b>
<i>Andropogon virginicus</i>	<i>Diodia teres</i>
<b>Dock, curly</b>	<b>Trumpet creeper*</b>
<i>Rumex crispus</i>	<i>Campsis radicans</i>
<b>Dogfennel</b>	<b>Vaseygrass</b>
<i>Eupatorium capilliflorum</i>	<i>Paspalum urvillei</i>
<b>Fescue, tall</b>	<b>Vervain, blue</b>
<i>Festuca arundinacea</i>	<i>Verbena hastata</i>

\*Suppression at the higher rates only.

\*\*Control at the higher rates.

Pine damage may occur or can be accentuated if treatment takes place when young trees are under stress from drought, flood water, insects or disease.

Read and observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Oust is a trademark of E.I. duPont de Nemours and Company.

#### **F. BROADCAST APPLICATIONS FOR WEED CONTROL IN CHRISTMAS TREE PLANTATIONS IN THE STATES OF WASHINGTON AND OREGON ONLY**

#### IV. SUPPLEMENTAL LABELING FOR INDUSTRIAL, TURF, AND ORNAMENTAL USES

##### USE DIRECTIONS

**NOTE: IF IMPROPERLY APPLIED, THIS PRODUCT HAS THE POTENTIAL TO CAUSE SEVERE CHRISTMAS TREE INJURY. FOLLOW ALL LABELED DIRECTIONS.**

This product may be applied as a broadcast spray over established Christmas trees. Ensure that adequate buffers are maintained to prevent drift onto nearby desirable crops or vegetation. Read the entire "APPLICATION EQUIPMENT AND TECHNIQUES" section of the [INSERT BRAND NAME] label booklet for additional application precautions.

This application is approved for the following Christmas tree species:

Douglas fir	( <i>Pseudotsuga menziesii</i> )
Fir species	( <i>Abies</i> spp.)
Spruce species	( <i>Picea</i> spp.)

Applications may be made only after trees have completed at least a full growing season since planting or transplanting. Applications should not be made within 1 full year prior to tree harvest.

Applications may only be made in the fall after the formation of final conifer resting buds. Final resting buds must be fully hardened and in the dormant stage. Applications made at any other time may result in unacceptable Christmas tree injury.

Avoid spray pattern overlap, as injury may occur.

Apply 1 quart of this product per acre in 5 to 30 gallons of water per acre.

**NOTE: DO NOT ADD SURFACTANTS, ADDITIVES CONTAINING SURFACTANTS, OR ANY OTHER ADDITIVES TO THIS PRODUCT OR SEVERE CHRISTMAS TREE INJURY MAY RESULT.**

This product may be used at rates from 1 to 2 quarts per acre in some areas. Consult your local Monsanto representative or Roundup supplier for specific recommendations if you require rates greater than 1 quart per acre.

Drift control additives may increase Christmas tree injury and their use is not recommended.

The use of other herbicides tank mixed with [INSERT BRAND NAME] is not recommended since severe Christmas tree injury may result.

1. IS A PLAN FOR A NECESSARY		4. PETITION NO.		5. RECEIVED ON YEAR	
<input type="checkbox"/> YES	<input type="checkbox"/> NO			NO	YES
3. METHOD OF SUPPORT		7. PRODUCT MANAGER		8. PROJECTED RETURN	
<input type="checkbox"/> 1A	<input type="checkbox"/> 1B	<input type="checkbox"/> 1C		NO	YES
9. DATE PULLED		10. DATE PULLED		11. ACTION TYPE	
11/12/02	AWP	11/10/02	AWP	Renne Maltz Label, add Bakertown, NY - 300	
12. DATE REVIEW COMPLETED		13. DATE REVIEW COMPLETED		14. DATE REVIEW COMPLETED	
NO	YES	NO	YES	NO	YES
REVIEW TYPE	REVIEW CODE	SIGNATURE OF REVIEWER	COM- MENT CODE	DATE REVIEW COMPLETED	
A	REVIEWABILITY TEAM			NO	YES
B	PRODUCT MANAGER TEAM EFFICACY REVIEW			NO	YES
C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW			NO	YES
D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW			NO	YES
E	PRODUCT MANAGER TEAM RECOMMENDATION REVIEW			NO	YES
F	PRODUCT MANAGER	UKW RL		11/1	11/5 012
G	INTERAGENCY REFERRAL			NO	YES
H	COST-BENEFIT REVIEW			NO	YES
I	PUBLIC COMMENTS REVIEW			NO	YES
J	EEB BRANCH INSPECTION OFFICER			NO	YES
K	EEB BRANCH REVISION OFFICER			NO	YES
L	EEB BRANCH FIVE-SIDE OFFICER			NO	YES
M	EEB BRANCH REVISION OFFICER			NO	YES
N	EEB BRANCH DISSEMINATION OFFICER			NO	YES
O	EEB BRANCH REVIEW REMOVE CHEMIST			NO	YES
P	EEB BRANCH REVIEW HUMAN SAFETY			NO	YES
Q	EEB BRANCH REVIEW ENVIRONMENTAL SAFETY			NO	YES
R	EEB BRANCH REVIEW HUMAN SAFETY			NO	YES
S				NO	YES
T				NO	YES
PRODUCT MANAGER SIGNATURE			TYPE OF RESPONSE		CODE



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number  
294454

## Application for Pesticide - Section I

1. Company/Product Number 524-445	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. 915102 Product Name	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated
<input type="checkbox"/> Resubmission in response to Agency letter dated	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Master Label

## Section - III

1. Material This Product Will Be Packaged in:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
* Certification must be submitted				<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container	<input type="checkbox"/> Other (Specify)	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other		

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Marsha Gray		Title Registration Manager	
		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped)  146
2. Signature 		3. Title Manager, Registrations	
4. Typed Name Stephen J. Wratten, Ph.D.		5. Date August 23, 2002	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc.. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Metrics where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

647

A

MONSANTO



E

MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

August 23, 2002

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

**Subject: Master Label: EPA Reg. No. 524-445**

Dear Mr. Tompkins:

Enclosed is Monsanto's proposal for a Master Label for EPA Reg. No. 524-445, consisting of the 41% IPA glyphosate based products, and the indicated brand names. Three copies are enclosed for Agency review and approval. This base label will also affect the labels of several Distributor Supplemental products once it is approved.

Previously, this registration included primarily food crop uses, typified by the previously submitted booklet labels for Roundup Original herbicide. At this time we wish to also add the industrial, turf, and ornamental product segment into this registration. Although there is no specific product sold into this segment, many of these uses were traditionally communicated via supplemental labeling.

You will recognize that this label format is essentially the same as that submitted and approved for other glyphosate based formulations, and there is nothing unique about the scope of use proposed here compared to the other product lines. The label text is adapted from previously approved Master labels for 524-454 and 524-475, which have the same product loading. We have taken this opportunity to (1) update the First Aid statements to the format now preferred by the Agency and (2) to incorporate the change away from "waterproof gloves" and toward Chemical Resistance Category A in the Agricultural Use box as we have done on other labels. The pending changes on grass crops related to the tolerance increase are not included here.

148



MONSANTO



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

October 8, 2002

Office of Pesticide Programs  
Document Processing Center (AMEND)  
U.S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Attention: Mr. James A. Tompkins (7505C)  
Team Leader (25)

Subject: Roundup Original® Herbicide (EPA Reg. No. 524-445)  
Amendment of Confidential Statements of Formula

Dear Mr. Tompkins:

The most recent CSF approval for the products covered by EPA Reg. No. 524-445 was a single Basic CSF dated 15-Sep-1995 and approved 7-Nov-1995 (copy attached), and therefore it is time for updating. As you know, Monsanto has been updating our older CSFs to provide a more precise definition of the inert ingredient identities and to create more flexibility for manufacture of the product from alternate sources of glyphosate by re-working our other registered products.

Accordingly, we wish to propose one Basic and two Alternate CSFs for Agency review and approval. The Basic CSF restates the presently approved formula, updates the supplier information, and separates the [REDACTED] into its component parts. Alternate A provides the same product, but derived from the 54% Glyphosate Isopropylamine manufacturing product. Finally, Alternate B allows us to [REDACTED] and added glyphosate isopropylamine to produce this lower surfactant-loaded product with the same 41% glyphosate-IPA level. The proposals are summarized as follows:

CSF	MON Number	Active Ingredient source	Surfactant source
Basic	35085	524-333	Suppliers listed
Alt A	35085	524-530	Suppliers listed
Alt B	35085	524-308 + 524-333	Roundup Export

\*Inert ingredient information may be entitled to confidential treatment\*

154

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

153



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number  
294470

### Application for Pesticide - Section I

1. Company/Product Number 524-445	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. 10/21/02 Product Name	

### Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated
<input type="checkbox"/> Resubmission in response to Agency letter dated	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Amendment of Confidential Statement of Formula

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify)	
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other	

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Marsha Gray		Title Registration Manager		Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					8. Date Application Received (Stamped)  152
2. Signature 		3. Title Manager, Registrations			
4. Typed Name Stephen J. Wratten, Ph.D.		5. Date October 8, 2002			

1. IS A PUBLIC LAW REQUIRED?		2. PETITION NO.		3. RECEIVED ON TEAM		
4. METHOD OF SUPPORT		5. PRODUCT MANAGER		6. PRODUCTED REVIEW		
7. DATE FILED		8. DATE PLACED		9. ACTION TYPE		
10. DATE FILED		11. DATE PLACED		12. ACTION TYPE		
11/12/02		AWP		Renewed Base CS Fand 2 alternate CS Fs 345		
13. REVIEW TYPE		14. REVIEWER CODE		15. SIGNATURE OF REVIEWER		16. COMMENT CODE
17. DATE REVIEW COMPLETED						
A	REVIEWABILITY TEAM					
B	PRODUCT MANAGER TEAM EFFECTIVE REVIEW					
C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW					
D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW					
E	PRODUCT MANAGER TEAM REGISTRATION REVIEW					
F	PRODUCT MANAGER			UKW	NAC	111 / 12 012
G	INTERAGENCY REFERRAL					
H	COST-BENEFIT REVIEW					
I	PUBLIC COMMENTS REVIEW					
J	EEB BRANCH INEFFECTIVE EFFECTIVE					
K	EEB BRANCH INEFFECTIVE EFFECTIVE					
L	EEB BRANCH INEFFECTIVE EFFECTIVE					
M	EEB BRANCH INEFFECTIVE EFFECTIVE					
N	EEB BRANCH INEFFECTIVE EFFECTIVE					
O	EEB BRANCH INEFFECTIVE EFFECTIVE					
P	EEB BRANCH INEFFECTIVE EFFECTIVE					
Q	EEB BRANCH INEFFECTIVE EFFECTIVE					
R	EEB BRANCH INEFFECTIVE EFFECTIVE					
S						
T						
PRODUCT MANAGER SIGNATURE				TYPE OF RESPONSE		CODE



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

NOV 20 2002

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. Stephen J. Wratten  
Monsanto Company  
600 13<sup>th</sup> Street, N.W. Suite 660  
Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Original Herbicide Revised Basic and Two Alternate CSFs)  
EPA Registration No. 524-445  
Your Application Dated October 8, 2002

The scientific review and evaluation of the confidential statements of formula (CSFs) submitted above have been completed. The revised basic CSF and alternate CSFs dated October 8, 2002 are acceptable and our records have been modified accordingly.

Sincerely,

*James A. Tompkins*  
James A. Tompkins *JAT*  
Product Manager 25  
Herbicide Branch  
Registration Division (7505C)

150

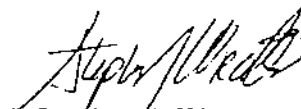
Because this product has a reduced-surfactant level, some text changes were needed to incorporate the concept of surfactant addition in the spray tank; these instructions are already part of the 524-445 registration, so the changes were merely to incorporate the necessary statements into the General Information and Mixing sections.

A few minor changes were also included to clarify some use instructions based on feedback we have received:

- Section I.7.0, three paragraphs under the heading "Spray Drift Management" were added. These are part of the standard Agency text, but somehow had been omitted.
- Section I.9.9, the word "juice" was added to the types of grapes allowed, clarifying that any kind of grape vineyard can be treated.
- Section I.15, the Woody Brush and Trees Rate Table was revised so as to have fewer columns and be more easily printed legibly.
- Explicit Grazing Restrictions were incorporated into Section III.5.0 for the benefit of users. These are the same as Monsanto has recently incorporated into Roundup Pro Concentrate (524-529).

If you have any questions on this matter please feel free to contact me through Dr. Marsha C. Gray (202-783-2878) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: M. C. Gray

Master Label 524-445.doc

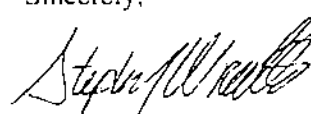
I emphasize that the resulting composition of the product described by these three CSFs is identical to that which is registered and sold today, and we are merely updating and increasing manufacturing flexibility by allowing different ingredient sources.

In addition, you will note that we have removed the surfactant cross-contaminant entry, since we no longer employ the blend that was mentioned.

**Once approved, these three CSFs will supersede all others for EPA Reg. No. 524-445.**

If you have any questions on this matter please feel free to contact me through Dr. Marsha C. Gray (202-783-2878) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: M. C. Gray

Rup Orig CSF revised.doc

155

MONSANTO



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
<http://www.monsanto.com>

February 26, 2002

Document Processing Center (NOTIF)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: **Honcho® Herbicide (EPA Reg. No. 524-445)**  
**Final Printed Labeling**  
**Reprinted Booklet**

Dear Mr. Tompkins:

Honcho Herbicide is one of the IPA-glyphosate herbicide brands registered as 524-445. The prior final printed version of the label was formally stamped "approved" by the Agency on the 29-Dec-2000. We have now produced a reprint of the booklet text, identified as Print Plate 21152Z3-3/53 and dated 2002-1. Five copies are provided for your use.

The principal reason for the reprinting is to voluntarily delete Forestry and Rights of Way use sites from the Directions for Use; the non-crop product uses are now limited to turf, ornamentals, and industrial sites. Text deletions related to this (compared to the 29-Dec-2000 stamped version) are as follows:

- In the list of allowed non-crop sites on page 53, "power and telephone rights of way" and "utility substations" were voluntarily deleted.
- References to uses in Forestry Site Preparation were voluntarily deleted from pages 54.
- A 5-page section of use instructions entitled "SILVICULTURAL SITES AND RIGHTS OF WAY" pertaining to forestry uses that had begun on page 60 was voluntarily deleted.

156



- In the list of use sites for Bermudagrass and Bahiagrass release, at the bottom of page 63, the phrase "other rights of way areas" was voluntarily deleted.
- In the list of use sites for COOL SEASON TURF GROWTH REGULATION on page 69, the phrase "rights of way" was voluntarily deleted.

Four other very minor housekeeping changes were made:

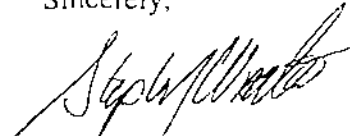
- Relocate the paragraph "Domestic Animals" from page 10 to page 5.
- At the Agency's request (verbal, 28-Feb-2001) the phrase on page 25 'See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for approved sites' was changed to 'See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information'. The original statement was an error, because the referenced section does not contain site information.
- The printed order of two sentences on page 76 was reversed, so that the cross-reference sentence about forage grasses now appears next to the NOTE about forage grasses, which seemed more sensible.
- In the Woody Brush and Trees list on pages 46 – 49, Florida Holly was re-positioned as Brazilian peppertree.

*This notification of minor label revisions during preparation of the Final Printed Label are consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR§ 152.46, and no other changes (beside those outlined herein) have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 USC Sec. 1001 to willfully make any false statements to the EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement actions and penalties under sections 12 and 14 of FIFRA.*

*The changes consist of voluntary removal of approved use sites and specific very minor format changes that correct earlier errors or improve understanding.*

If you have any questions on this matter please feel free to contact me through Dr. Marsha C. Gray (202-383-2878) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

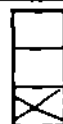
cc: M. C. Gray

Honcho FPL.doc

157



United States  
Environmental Protection Agency  
Washington, DC 20460



Registration  
Amendment  
Other

OPP Identifier Number  
287950

### Application for Pesticide - Section I

1. Company/Product Number 524-445	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Honcho Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 12/29/2000
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Final printed label  
Print Plate No. 2115223-3/53

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
				<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
					Other (Specify) _____
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product		<input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____	

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Marsha Gray		Title Product Registration Manager	
		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped) 158
2. Signature 		3. Title Manager, Registrations	
4. Typed Name Stephen J. Wratten, Ph.D.		5. Date 2/27/2002	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

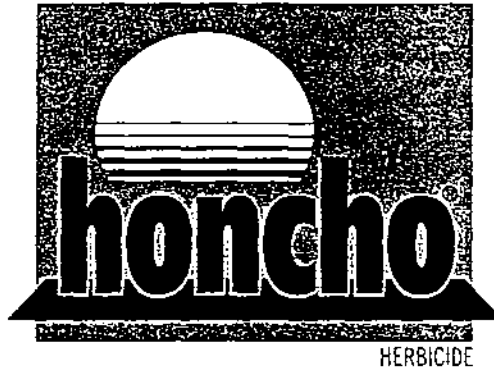
1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

139

21152Z3-3/53



**Complete Directions for Use**

Revised 12/20/82  
EPA Reg. No. 524-445

12/20/82

AVOID CONTACT WITH FOLIAGE, GREEN  
STEMS, EXPOSED NON-WOODY ROOTS OR  
FRUIT OF CROPS, DESIRABLE PLANTS AND  
TREES, SINCE SEVERE INJURY OR DESTRUC-  
TION MAY RESULT.

2002-1



2115223-3/53



**Complete Directions for Use**

EPA Reg. No. 524-445

AVOID CONTACT WITH FOLIAGE, GREEN  
STEMS, EXPOSED NON-WOODY ROOTS OR  
FRUIT OF CROPS, DESIRABLE PLANTS AND  
TREES, SINCE SEVERE INJURY OR DESTRU-  
TION MAY RESULT.

2002-1

161

Read the entire label before using this product.

Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

#### LIMIT OF WARRANTY AND LIABILITY

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement.

162

	4
LIMIT OF WARRANTY AND LIABILITY .....	2, 3
PRECAUTIONARY STATEMENTS .....	5, 6
ENVIRONMENTAL HAZARDS .....	6
INGREDIENTS .....	7
DIRECTIONS FOR USE .....	8
STORAGE AND DISPOSAL .....	9
GENERAL INFORMATION .....	9 thru 11
MIXING, ADDITIVES & APPLICATION INSTRUCTIONS .....	11 thru 14
APPLICATION EQUIPMENT .....	14 thru 24
WEEDS CONTROLLED .....	25
ANNUAL WEEDS .....	25 thru 33
PERENNIAL WEEDS .....	33 thru 46
WOODY BRUSH AND TREES .....	46 thru 52
NONCROP USES .....	52 thru 72
CROPPING SYSTEMS .....	72 thru 80
FALLOW AND REDUCED TILLAGE SYSTEMS .....	81 thru 86
CONSERVATION, MINIMUM AND NO-TILLAGE SYSTEMS .....	87 thru 91
TREE AND VINE CROPS .....	92 thru 102

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

Keep out of reach of children.

#### WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

#### CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY.

#### HARMFUL IF SWALLOWED OR INHALED.

Do not get in eyes or on clothing.

Avoid breathing vapor or spray mist.

**FIRST AID: IF IN EYES,** immediately hold eyelids open and flush with plenty of water for at least 15 minutes. Get medical attention.

**IF INHALED,** remove individual to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

**IF SWALLOWED,** this product will cause gastrointestinal tract irritation. Immediately dilute by swallowing water or milk. Get medical attention. **NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.**

**DOMESTIC ANIMALS:** This product is considered to be relatively non-toxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

#### Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

#### Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

#### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt

OTHER INGREDIENTS:	41.0%
	59.0%
	100.0%

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

No license granted under any non-U.S. patent(s).

164



## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, waterproof gloves, shoes plus socks, and protective eyewear.

### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

For more product information, call toll free, 1-800-332-3111.

### Storage and Disposal

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

See container label for STORAGE AND DISPOSAL instructions.

## GENERAL INFORMATION

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

This product, a water soluble liquid, mixes readily with water to be applied as a foliar spray for the control or destruction of most herbaceous plants. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water in accordance with label instructions.

This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

165

Unless otherwise specified on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "WEEDS CONTROLLED" section of this label. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow. For this reason, best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the recommended range when (1) weed growth is heavy or dense, or (2) weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the chemical off the foliage and a repeat treatment may be required.

This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

### **MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS**

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. DO NOT APPLY WHEN WIND OR OTHER CONDITIONS FAVOR DRIFT. HAND-GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

#### **MIXING**

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product (see the "DIRECTIONS FOR USE" and "WEEDS CONTROLLED" sections of this label) near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank, and, if needed, use an approved anti-foam or defoaming agent.

#### **TANK MIXTURES**

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.

2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
6. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
7. Where nonionic surfactant is recommended, add this to the spray tank before completing the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid followed by surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat fan nozzles.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water.

## ADDITIVES

### SURFACTANTS

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

### AMMONIUM SULFATE

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, and this product plus 2,4-D, Banvel<sup>TM</sup> or residual herbicide tank mixtures on annual and perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. Low-quality ammonium sulfate may contain material that will not readily dissolve, which could result in nozzle tip plugging. To determine quality, perform a jar test by adding 1/3 cup of ammonium sulfate to 1 gallon of water and agitate for 1 minute. If undissolved sediment is observed, predissolve the ammonium sulfate in water and filter prior to addition to the spray tank. If ammonium sulfate is added directly to the spray tank, add slowly with agitation. Adding too quickly may clog outlet line. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides or surfactant. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** The use of ammonium sulfate as an additive does not preclude the need for additional surfactant. Do not use herbicide rates lower than recommended in this label.

167

## COLORANTS AND DYES

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

## APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial**—Fixed Wing and Helicopter

**Broadcast Spray**

**Controlled Droplet Applicator (COA)**—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

**Hand-Held and High-Volume Spray Equipment**—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective equipment**—Recirculating sprayers, shielded sprayers and wiper applicators.

See the appropriate part of this section for specific instructions and rates of application.

**SPRAY DRIFT MANAGEMENT: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.**

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

## AERIAL EQUIPMENT

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. See the "WEEDS CONTROLLED" section of this label for specific rates. Unless otherwise specified, do not exceed 1 quart per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for recommended volumes and application rates. FOR AERIAL APPLICATION IN CALIFORNIA OR ARKANSAS, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

## AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

168

### Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

### Controlling Droplet Size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom length:** For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

### Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the

169

morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

**Avoid direct application to any body of water.**

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

**Ensure uniform application.** To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

This product plus Oust<sup>TM</sup>, Banvel or 2,4-D tank mixtures may not be applied by air in California.

#### BROADCAST EQUIPMENT

For control of annual or perennial weeds listed on this label using broadcast equipment—Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified on this label. See the "WEEDS CONTROLLED" section of this label for specific rates. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzle to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

#### CONTROLLED DROPLET APPLICATION (CDA)

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of labeled annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 quart per acre). For the control of labeled perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

170

### HAND-HELD and HIGH-VOLUME EQUIPMENT

Use coarse sprays only.

Mix this product in clean water and apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff.

For control of annual weeds listed on this label, apply a 0.5 percent solution of this product plus nonionic surfactant to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. Allow three or more days before tillage or mowing.

For annual weeds over 6 inches tall, or when not using additional surfactant, or unless otherwise specified, use a 1 percent solution. For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods which result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Spray Solution

Desired Volume	Amount of Honcho					
	1/2%	1%	1 1/2%	2%	5%	10%
1 Gal	2 2/3 oz	1 1/3 oz	2 oz	2 2/3 oz	6 1/2 oz	13 oz
25 Gal	1 pt	1 qt	1 1/2 qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1 1/2 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

### SELECTIVE EQUIPMENT

This product may be applied through a recirculating spray system, a shielded applicator, or a wiper applicator after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically recommended in cropping systems.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

A shielded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.

A wiper applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

### AVOID CONTACT WITH DESIRABLE VEGETATION.

Contact of the herbicide solution with the desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

### SHIELDED APPLICATORS

When applied as directed under conditions described for shielded applicators, this product will control those weeds listed in the "WEEDS CONTROLLED" section of this label.

Use the following equation to convert from a broadcast rate per acre to a band rate per acre.

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast RATE per acre} = \text{Herbicide Band RATE per acre}$$

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast VOLUME of solution per acre} = \text{Band VOLUME of solution per acre}$$

Use nozzles that provide uniform coverage within the treated area. Keep shields on shielded sprayers adjusted to protect desirable vegetation. EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT WITH DESIRABLE VEGETATION.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

### WIPER APPLICATORS

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators**—Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this "WIPER APPLICATORS" section.

**For Porous-Plastic Applicators**—Solutions ranging from 33 to 100 percent of this product in water may be used in porous-plastic wiper applicators.

When applied as recommended under the conditions described for "WIPER APPLICATORS", this product CONTROLS the following weeds:

#### ANNUAL GRASSES

Corn	Rye, common
<i>Zea mays</i>	<i>Secale cereale</i>
Panicum, Texas	Shattercane
<i>Panicum texanum</i>	<i>Sorghum bicolor</i>

#### ANNUAL BROADLEAVES

Sicklepod	Starbur, bristly
<i>Cassia obtusifolia</i>	<i>Acanthospermum hispidum</i>
Spanishneedles	
<i>Bidens bipinnata</i>	

172



When applied as recommended under the conditions described for "WIPER APPLICATORS", this product SUPPRESSES the following weeds:

#### ANNUAL BROADLEAVES

Beggarweed, Florida  
*Desmodium tortuosum*

Dogfennel  
*Eupatorium capilliflorum*

Pigweed, redroot  
*Amaranthus retroflexus*

Ragweed, common  
*Ambrosia artemisiifolia*

Ragweed, giant  
*Ambrosia trifida*

Sunflower  
*Helianthus annuus*

Thistle, musk  
*Carduus nutans*

Velvetleaf  
*Abutilon theophrasti*

#### PERENNIAL GRASSES

Bermudagrass  
*Cynodon dactylon*

Guineagrass  
*Panicum maximum*

Johnsongrass  
*Sorghum halepense*

Smulgrass  
*Sporobolus poiretii*

Vaseygrass  
*Paspalum urvillei*

#### PERENNIAL BROADLEAVES

Dogbane, hemp  
*Apocynum cannabinum*

Milkweed  
*Asclepias syriaca*

Nightshade, silverleaf  
*Solanum elaeagnifolium*

Thistle, Canada  
*Cirsium arvense*

### WEEDS CONTROLLED

This herbicide controls many annual and perennial grasses and broadleaf weeds.

#### ANNUAL WEEDS

- Apply to actively growing grass and broadleaf weeds.
- Allow at least 3 days after treatment before tillage.
- For maximum agronomic benefit, apply when weeds are 6 inches or less in height.
- To prevent seed production, applications should be made prior to seedhead formation.
- This product does not provide residual control; therefore, delay application until maximum weed emergence. Repeat treatments may be necessary to control later germinating weeds.

#### ■ LOW-VOLUME BROADCAST APPLICATION (LOW-RATE TECHNOLOGY) ■

When applied as directed under the conditions described, this product will control the weeds listed below when:

1. Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are recommended. (See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional application information.)
2. A nonionic surfactant is added at 0.5 to 1 percent by total spray volume. Use 0.5 percent surfactant concentration when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration for those surfactants containing less than 70 percent active ingredient.

173

## NOTE

- The addition of 2 percent dry ammonium sulfate by weight or 17 pounds per 100 gallons of water may increase the performance of this product on annual weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" section of this label.
- Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.
- For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.
- Refer to the "TANK MIXTURES" portion of this section for control of additional broadleaf weeds.

WEED SPECIES	MAXIMUM HEIGHT/LENGTH	RATE PER ACRE* (Fluid Ounces)
Foxtail <i>Setaria spp.</i>	12"	8 oz.
Barnyardgrass <i>Echinochloa crus-galli</i>	5" (0 to 4" 4 to 6"	12 oz. 16 oz. <sup>1)</sup> 24 oz. <sup>1)</sup>
Bluegrass, annual <i>Poa annua</i>		
Brome, downy** <i>Bromus tectorum</i>		
Mustard, blue <i>Chorispora tenella</i>		
Mustard, tansy <i>Oscurainia pinnata</i>		
Mustard, tumble <i>Sisymbrium altissimum</i>		
Mustard, wild <i>Sinapis arvensis</i>		
Spurry, umbrella <i>Holosteum umbellatum</i>		
Barley <i>Hordeum vulgare</i>	12"	
Rye <i>Secale cereale</i>		
Sandbur, field <i>Cenchrus spp.</i>		
Shattercane <i>Sorghum bicolor</i>		
Stinkgrass <i>Eragrostis ciliaris</i>		
Wheat <i>Triticum aestivum</i>	18"	
Morningglory <i>Ipomoea spp.</i>	2"	16 oz.
Sicklepod <i>Cassia obtusifolia</i>		
Bluegrass, bulbous <i>Poa bulbosa</i>	6"	
Cheat <i>Bromus secalinus</i>		
Chickweed, common <i>Stellaria media</i>		

174

WEED SPECIES	MAXIMUM HEIGHT/LENGTH	RATE PER ACRE* (Fluid Ounces)
Chickweed, mouseear <i>Cerastium vulgatum</i>	6"	16 oz.
Corn <i>Zea mays</i>		
Goatgrass, jointed <i>Aegilops cylindrica</i>		
Groundsel, common <i>Senecio vulgaris</i>		
Henbit <i>Lamium amplexicaule</i>		
Horseweed/Marestail <i>Conyza canadensis</i>		
Lambsquarters, common <i>Chenopodium album</i>		
Pennycress, field <i>Fanweed</i> <i>Thlaspi arvense</i>		
Rocket, London <i>Sisymbrium irio</i>		
Ryegrass, Italian <i>Lolium multiflorum</i>		
Shepherd's-purse <i>Capsella bursa-pastoris</i>		
Spurge, annual <i>Euphorbia</i> spp.		
Buttercup <i>Ranunculus</i> spp.	12"	

Cocklebur <i>Xanthium strumarium</i>		
Crabgrass <i>Digitaria</i> spp.		
Dwarf dandelion <i>Krigia cespitosa</i>		
Falseflax, smallseed <i>Camelina microcarpa</i>		
Foxtail, Carolina <i>Alopecurus carolinianus</i>		
Johnsongrass, seedling <i>Sorghum halepense</i>		
Oats, wild <i>Avena fatua</i>		
Panicum, fall <i>Panicum dichotomiflorum</i>		
Panicum, Texas <i>Panicum texanum</i>		
Pigweed, redroot <i>Amaranthus retrofractus</i>		
Pigweed, smooth <i>Amaranthus hybridus</i>		
Witchgrass <i>Panicum capillare</i>		
Sicklepod <i>Cassia obtusifolia</i>	3 to 4"	24 oz.
Signalgrass, broadleaf <i>Brachiaria platyphylla</i>	4"	

175

WEED SPECIES	MAXIMUM HEIGHT/LENGTH	RATE PER ACRE* (Fluid Ounces)
Horseweed/Marestail <i>Conyza canadensis</i> Lambsquarters, common <i>Chenopodium album</i> Spurge, annual <i>Euphorbia</i> spp.	7 to 12"	24oz.
Rice, red <i>Oryza sativa</i> Teaweed <i>Sida spinosa</i> Sprangletop <i>Leptochloa</i> spp.	4" 6"	32 oz.
Geranium, Carolina <i>Geranium carolinianum</i> Goosegrass <i>Eleusine indica</i> Primrose, cutleaf evening <i>Oenothera laciniate</i> Pusley, Florida <i>Richardia scabra</i>	12"	
Sicklepod <i>Cassia obtusifolia</i> Spanishneedles <i>Bidens bipinnata</i>	5 to 12"	
Filaree <i>Erodium</i> spp. Sprangletop <i>Leptochloa</i> spp.	12"	48 oz.

Use these rates to control barnyardgrass in Alabama, Arkansas, Mississippi, Missouri, Louisiana and Texas for preplant treatments

\* For those rates less than 32 fluid ounces per acre, this product at rates up to 32 fluid ounces per acre may be used where heavy weed densities exist.

\*\* For control in no-till systems, use 16 fluid ounces per acre

#### TANK MIXTURES

HONCHO plus BANVEL  
plus NONIONIC SURFACTANT

HONCHO plus 2,4-D  
plus NONIONIC SURFACTANT

DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

These tank mixtures are recommended for use in fallow and reduced tillage areas only. Follow use directions as given in the "LOW-VOLUME BROADCAST APPLICATION" section.

This product plus Banvel or 2,4-D will control the annual grasses and broadleaf weeds listed for this product alone at the indicated heights (except 8 fluid ounces per acre applications), plus the following broadleaf weeds. For those weeds previously listed at 8 fluid ounces of this product alone per acre, use 12 fluid ounces in these tank mixtures.

NOTE: Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting. The addition of Banvel in a mixture with this product may provide short-term residual control of selected weed species.

Apply 12 to 16 fluid ounces of this product plus 0.25 pound a.i. of Banvel or 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control dense populations

of the following annual broadleaf weeds when less than the height indicated:

Cocklebur (12") <i>Xanthium strumarium</i>	Morningglory (6") <i>Ipomoea</i> spp.
Kochia* (6") <i>Kochia scoparia</i>	Pigweed, redroot (12") <i>Amaranthus retroflexus</i>
Lambsquarters (12") <i>Chenopodium album</i>	Pigweed, smooth (12") <i>Amaranthus hybridus</i>
Lettuce, prickly (6") <i>Lactuca serriola</i>	Thistle, Russian (12") <i>Salsola kali</i>
Marestail/Horseweed (6") <i>Conyza canadensis</i>	

\*Controlled with Banvel tank mixture only.

Apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control the following annual broadleaf weeds when less than 6 inches in height.

Ragweed, common <i>Ambrosia artemisiifolia</i>	Smartweed, Pennsylvania <i>Polygonum pensylvanicum</i>
Ragweed, giant <i>Ambrosia trifida</i>	Velvetleaf <i>Abutilon theophrasti</i>

#### ■ HIGH-VOLUME BROADCAST APPLICATIONS ■

When applied as directed under the conditions described, this product will control the weeds listed below when water carrier volumes are 10 to 40 gallons per acre for ground applications.

Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall. If weeds have been mowed, grazed or cut, allow adequate time for new growth to reach recommended stages prior to

treatment. These rates will also provide control of weeds listed in the "LOW-VOLUME BROADCAST APPLICATION" section.

Balsamapple* <i>Momordica charantia</i>	Panicum <i>Panicum</i> spp.
Bassia, fivehook <i>Bassia hyssopifolia</i>	Ragweed, common <i>Ambrosia artemisiifolia</i>
Brome <i>Bromus</i> spp.	Ragweed, giant <i>Ambrosia trifida</i>
Fiddleneck <i>Amsinckia</i> spp.	Smartweed, Pennsylvania <i>Polygonum pensylvanicum</i>
Fleabane, hairy <i>Conyza bonariensis</i>	Sowthistle, annual <i>Sonchus oleraceus</i>
Fleabane <i>Erigeron</i> spp.	Sunflower <i>Helianthus annuus</i>
Kochia <i>Kochia scoparia</i>	Thistle, Russian <i>Salsola kali</i>
Lettuce, prickly <i>Lactuca serriola</i>	Velvetleaf <i>Abutilon theophrasti</i>

\*Apply with hand-held equipment only.

#### PERENNIAL WEEDS

Apply this product as follows to control or destroy most perennial weeds:

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

177

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product on perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label.

When applied as recommended under the conditions described, this product WILL CONTROL the following PERENNIAL WEEDS:

Alfalfa <i>Medicago sativa</i>	Horsenettle <i>Solanum carolinense</i>
Alligatorweed* <i>Alternanthera philoxeroides</i>	Korseradish <i>Armoracia rusticana</i>
Anise (fennel) <i>Foeniculum vulgare</i>	Ice plant <i>Mesembryanthemum crystallinum</i>
Artichoke, Jerusalem <i>Helianthus tuberosus</i>	Johnsongrass <i>Sorghum halepense</i>
Bahiagrass <i>Paspalum notatum</i>	Kikuyugrass <i>Pennisetum clandestinum</i>
Bentgrass <i>Agrostis</i> spp.	Knapweed <i>Centaurea repens</i>
Bermudagrass <i>Cynodon dactylon</i>	Lantana <i>Lantana camara</i>
Bermudagrass, water (knotgrass) <i>Paspalum distichum</i>	Lespedeza <i>Lespedeza</i> spp.
Bindweed, field <i>Convolvulus arvensis</i>	Milkweed <i>Asclepias</i> spp.
Bluegrass, Kentucky <i>Poa</i> spp.	Muhly, wirestem <i>Muhlenbergia frondosa</i>
Bluesweed, Texas <i>Helianthus ciliaris</i>	Mullein, common <i>Verbascum thapsus</i>

Brackenfern <i>Pteridium aquilinum</i>	Napiergrass <i>Pennisetum purpureum</i>
Bromegrass, smooth <i>Bromus inermis</i>	Nightshade, silverleaf <i>Solanum elaeagnitolum</i>
Bursage, woollyleaf <i>Franseria tomentosa</i>	Nutsedge, purple, yellow <i>Cyperus rotundus</i> <i>Cyperus esculentus</i>
Canarygrass, reed <i>Phalaris arundinacea</i>	Orchardgrass <i>Dactylis glomerata</i>
Cattail <i>Typha</i> spp.	Pampasgrass <i>Cortaderia</i> spp.
Clover, red <i>Trifolium pratense</i>	Paragrass <i>Bracharia mutica</i>
Clover, white <i>Trifolium repens</i>	Phragmites* <i>Phragmites</i> spp.
Cogongrass <i>Imperata cylindrica</i>	Poison hemlock <i>Conium maculatum</i>
Dallisgrass <i>Paspalum dilatatum</i>	Quackgrass <i>Agropyron repens</i>
Dandelion <i>Taraxacum officinale</i>	Redvine* <i>Brunnichia ovaia</i>
Dock, curly <i>Rumex crispus</i>	Reed, giant <i>Arundo donax</i>
Dogbane, hemp <i>Apocynum cannabinum</i>	Ryegrass, perennial <i>Lolium perenne</i>
Fescues <i>Festuca</i> spp.	Smartweed, swamp <i>Polygonum coccineum</i>
Fescue, tall <i>Festuca arundinacea</i>	Spurge, leafy* <i>Euphorbia esula</i>
Guineagrass <i>Panicum maximum</i>	

178

Starthistle, yellow <i>Centaurea solstitialis</i>	Torpedograss* <i>Panicum repens</i>
Sweet potato, wild* <i>Ipomoea pandurata</i>	Trumpet creeper* <i>Campsis radicans</i>
Thistle, Canada <i>Cirsium arvense</i>	Vaseygrass <i>Paspalum urvillei</i>
Thistle, artichoke <i>Cynara cardunculus</i>	Velvetgrass <i>Holcus spp.</i>
Timothy <i>Phleum pratense</i>	Wheatgrass, western <i>Agropyron smithii</i>

\*Partial Control

This product is not registered in California for use on water bermudagrass.

See "DIRECTIONS FOR USE" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for labeled uses and specific application instructions.

**Ailfalfa**—Apply 1 quart of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make application after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

**Alligatorweed**—Apply 4 quarts of this product per acre or apply a 1.5 percent solution with hand-held equipment to provide partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain such control.

**Anise (fennel) / Poison hemlock**—Apply a 1 to 2 percent solution of this product as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Repeat applications may be needed in succeeding years to control plants arising from seeds.

**Bentgrass**—For suppression in grass seed production areas. For ground applications only, apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should be actively growing and have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results. Failure to use tillage after treatment may result in unacceptable control.

**Bermudagrass**—For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control. Allow 7 or more days after application before tillage.

**Bermudagrass, water (knotgrass)**—Apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Apply when water bermudagrass is actively growing and 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

**Fall applications only**—Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is actively growing and 12 to 18 inches in length. Allow 7 or more days before tillage.

**Bindweed, field**—For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are actively growing and are at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Banvel in 10 to 20 gallons of water per acre. At these rates, apply using ground application only.

The following tank mixtures with 2,4-D may be applied using aerial application equipment (except in California) in fallow and reduced tillage systems only.

For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions.

For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth. Allow 3 or more days after application before tillage.

**Bluegrass, Kentucky / Bromegrass, smooth / Orchardgrass**—Apply 2 quarts of this product in 10 to 40 gallons of water per acre when the grasses are actively growing and most plants have reached boot-to-early seedhead stage of development. For partial control in

pasture or hay crop renovation, apply 1 to 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Allow 7 or more days after application before tillage.

**Orchardgrass (sods going to no-till corn)**—Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

**Blueweed, Texas**—Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when weed is actively growing and is at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

**Brackenfern**—Apply 3 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

**Bursage, woollyleaf**—For control, apply 2 quarts of this product plus 1 pint of Banvel per acre. For partial control, apply 1 quart of this product plus 1 pint of Banvel per acre. Add 0.5 to 1 percent nonionic surfactant by total spray volume and apply in 3 to 20 gallons of water per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

**Canarygrass, reed / Timothy / Wheatgrass, western**—Apply 2 to 3 quarts of this product per acre. For best results, apply to actively



growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage.

**Cogongrass**—Apply 3 to 5 quarts of this product plus 0.5 to 1 percent nonionic surfactant in 10 to 40 gallons of water per acre. Apply when Cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

**Dandelion / Dock, curly**—Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

**Dogbane, hemp**—Apply 4 quarts of this product per acre. Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

**Fescue, tall**—Apply 3 quarts of this product in 10 to 40 gallons of water per acre to actively growing plants when most have reached boot-to-early seedhead stage of development.

Fall applications only—Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to fescue in the fall when actively growing and

plants have 6 to 12 inches of new growth. Allow 7 or more days after application before tillage. A sequential application of 1 pint per acre of this product plus nonionic surfactant will improve long-term control and control seedlings germinating after fall treatments or the following spring.

**Guineagrass**—Apply 3 quarts of this product per acre or use a 1 percent solution with hand-held equipment. Apply to actively growing guineagrass when most has reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. Allow 7 or more days after application before tillage.

**Johnsongrass / Ryegrass, perennial**—Apply 1 to 3 quarts of this product per acre. In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not performed, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.

For burndown of Johnsongrass, apply 1 pint per acre plus 0.5 to 1 percent nonionic surfactant in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression)—Apply a 1 percent solution of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

**Kikuyugrass**—Apply 2 to 3 quarts of this product per acre. Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

**Knapweed / Horseradish**—Apply 4 quarts of this product per acre. Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.

**Lantana**—Apply this product as a 1 to 1.25 percent solution using hand-held equipment only. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth. Allow 7 or more days after application before tillage.

**Milkweed, common**—Apply 3 quarts of this product per acre. Apply when actively growing and most of the milkweed has reached the late bud to flower stage of growth. Following small grain harvest or mowing, allow milkweed to regrow to a mature stage prior to treatment. Allow 7 or more days after application before tillage.

**Muhly, wirestem**—Apply 1 to 2 quarts of this product per acre. Use 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height and actively growing. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage. This product will not provide residual control of wirestem muhly from seeds which germinate after application of this product. Do not tank mix with residual herbicides when using the 1 quart per acre rate.

**Nightshade, silverleaf**—For control, apply 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth.

**Nutsedge; purple, yellow**—Apply 3 quarts of this product per acre as a broadcast spray, or apply a 1 to 2 percent solution from hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications of 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre will provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For suppression to partial control of existing plants, apply 1 pint to 2 quarts of this product per acre, plus 0.5 to 1 percent nonionic surfactant in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants. Wait 7 days after treatment before tillage or mowing.

**Pampasgrass / Ice plant**—Apply this product as a 1.5 to 2 percent solution using hand-held equipment. Apply to plants that are actively growing. Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

**Phragmites**—For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 3 quarts per acre as a broadcast spray or apply a 2 percent solution from hand-held equipment. In other areas of the U.S., apply 3 quarts per acre as a broadcast spray or apply a 1 percent solution from hand-held equipment for partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent

182

good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

**Quackgrass—In Annual Cropping Systems, or in Pastures and Sods Followed by Deep Tillage:** Apply 1 to 2 quarts of this product per acre. For the 1 quart rate, apply 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. For the 2 quart rate, apply in 10 to 40 gallons of water per acre. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height and actively growing. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, for best results use a moldboard plow.

**Quackgrass—Pasture or Sod or Other Noncrop Areas Where Deep Tillage is Not Planned Following Application:** Apply 2 to 3 quarts in 10 to 40 gallons of water per acre. Spray when the quackgrass is greater than 8 inches tall and actively growing. Do not till between harvest and fall application or in fall or spring prior to spring application. Allow 3 or more days after application before tillage.

**Redvine—**For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre plus 0.5 to 1 percent nonionic surfactant by total volume. Apply in late September or early October to actively growing plants, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

**Reed, giant—**For control of giant reed, apply a 2 percent solution of this product when plants are actively growing. Best results are obtained when applications are made in late summer to fall.

**Smartweed, swamp—**Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound active ingredient of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

**Spurge, leafy—**For suppression, apply 16 fluid ounces of this product plus 0.5 pound active ingredient 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall. Allow 7 or more days after application before tillage.

**Starthistle, yellow—**Best results are obtained when applications are made during periods of active growth, including the rosette, bolting and early flower stages. For spray-to-wet applications, apply this product as a 2 percent solution. For broadcast applications, apply 2 quarts per acre in 10 to 40 gallons per acre of water carrier.

**Sweet Potato, wild / Thistle, artichoke—**Apply this product as a 2 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications may be required. Allow the plant to reach the recommended stage of growth before retreatment. Allow 7 or more days before tillage.

**Thistle, Canada—**Apply 2 to 3 quarts of this product per acre. Apply to actively growing thistles when most are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression of Canada thistle, apply 1 quart per acre of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-D per acre.

183

plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

**Torpedograss**—Apply 4 to 5 quarts of this product per acre to provide partial control of torpedograss. Apply to actively growing torpedograss when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost. Allow 7 or more days after application before tillage.

**Trumpet creeper**—For control, apply 2 quarts of this product per acre in 5 to 10 gallons of water per acre. Apply to actively growing plants in late September or October, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

**Other perennials listed on this label**—Apply 3 to 5 quarts of this product per acre. Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.

### WOODY BRUSH AND TREES

When applied as recommended under the conditions described, this product CONTROLS or PARTIALLY CONTROLS the following woody brush, plants and trees:

<b>Alder</b> <i>Alnus</i> spp.	<b>Cherry:</b> <b>Bitter</b> <i>Prunus emarginata</i>
<b>Ash*</b> <i>Fraxinus</i> spp.	<b>Black</b> <i>Prunus serotina</i>
<b>Aspen, quaking</b> <i>Populus tremuloides</i>	<b>Pin</b> <i>Prunus pennsylvanica</i>
<b>Bearmat (Bearclover)</b> <i>Chamaebatia foliolosa</i>	<b>Coyote brush</b> <i>Baccharis consanguinea</i>
<b>Beech</b> <i>Fagus grandifolia</i>	<b>Creeper, Virginia*</b> <i>Parthenocissus quinquefolia</i>
<b>Birch</b> <i>Betula</i> spp.	<b>Dewberry</b> <i>Rubus idaeus</i>
<b>Blackberry</b> <i>Rubus</i> spp.	<b>Dogwood*</b> <i>Cornus</i> spp.
<b>Blackgum</b> <i>Nyssa</i> spp.	<b>Elderberry</b> <i>Sambucus</i> spp.
<b>Bracken</b> <i>Pteridium</i> spp.	<b>Elm*</b> <i>Ulmus</i> spp.
<b>Broom:</b> <b>French</b> <i>Cytisus monspessulanus</i>	<b>Eucalyptus</b> <i>Eucalyptus</i> spp.
<b>Scotch</b> <i>Cytisus scoparius</i>	<b>Gorse</b> <i>Ulex europaeus</i>
<b>Buckwheat, California*</b> <i>Eriogonum fasciculatum</i>	<b>Hasardia*</b> <i>Haplopappus squamosus</i>
<b>Cascara*</b> <i>Rhamnus purshiana</i>	<b>Hawthorn</b> <i>Crataegus</i> spp.
<b>Catsclaw*</b> <i>Acacia greggii</i>	<b>Hazel</b> <i>Corylus</i> spp.
<b>Ceanothus*</b> <i>Ceanothus</i> spp.	<b>Hickory*</b> <i>Carya</i> spp.
<b>Chamise</b> <i>Adenostoma fasciculatum</i>	<b>Honeysuckle</b> <i>Lonicera</i> spp.

Hornbeam, American* <i>Carpinus caroliniana</i>	Raspberry <i>Rubus</i> spp.
Kudzu <i>Pueraria lobata</i>	Redbud, eastern <i>Cercis canadensis</i>
Locust, black* <i>Robinia pseudoacacia</i>	Rose, multiflora <i>Rosa multiflora</i>
Madrone <i>Arbutus menziesii</i>	Russian-olive <i>Elaeagnus angustifolia</i>
Manzanita <i>Arctostaphylos</i> spp.	Sage; black, white <i>Salvia</i> spp.
Maple: Red** <i>Acer rubrum</i>	Sagebrush, California <i>Artemisia californica</i>
Sugar <i>Acer saccharum</i>	Salmonberry <i>Rubus spectabilis</i>
Vine* <i>Acer circinatum</i>	Salt cedar <i>Tamarix</i> spp.
Monkey Flower* <i>Mimulus guttatus</i>	Sassafras <i>Sassafras albidum</i>
Oak: Black* <i>Quercus velutina</i>	Sourwood <i>Oxydendrum arboreum</i>
Northern Pin <i>Quercus palustris</i>	Sumac: Poison* <i>Rhus vernix</i>
Post <i>Quercus stellata</i>	Smooth* <i>Rhus glabra</i>
Red <i>Quercus rubra</i>	Winged* <i>Rhus copallina</i>
Southern Red <i>Quercus falcata</i>	Sweetgum <i>Liquidambar styraciflua</i>
White* <i>Quercus alba</i>	Swordfern* <i>Polystichum munium</i>
Peppertree, Brazilian,* Florida Holly <i>Schinus terebinthifolius</i>	Tallowtree, Chinese <i>Sapium sebiferum</i>
Persimmon* <i>Diospyros</i> spp.	Tan Oak <i>Lithocarpus densiflorus</i>
Pine <i>Pinus</i> spp.	Thimbleberry <i>Rubus parviflorus</i>
Poison Ivy <i>Rhus radicans</i>	Tobacco, tree* <i>Nicotiana glauca</i>
Poison Oak <i>Rhus toxicodendron</i>	Trumpet creeper <i>Campsis radicans</i>
Poplar, yellow* <i>Liriodendron tulipifera</i>	Waxmyrtle, southern* <i>Myrica cerifera</i>
	Willow <i>Salix</i> spp.

\*Partial control

\*\*See below for control or partial control instructions.

NOTE: If brush has been mowed or tilled or trees have been cut, do not treat until regrowth has reached the recommended stages of growth.

Apply this product when plants are actively growing and, unless otherwise directed, after full leaf expansion. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when application is made in the spring to early summer when brush species are at high moisture content and are flowering.

185

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

See "DIRECTIONS FOR USE" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for labeled uses and specific application instructions.

Apply this product as follows to control or partially control the following woody brush and trees.

**Alder / Dewberry / Honeysuckle / Post Oak / Raspberry**—For control, apply 3 to 4 quarts per acre of this product as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

**Aspen, quaking / Cherry: bitter, black, pin / Hawthorn / Oak, southern red / Sweetgum / Trumpet creeper**—For control, apply 2 to 3 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

**Birch / Elderberry / Hazel / Salmonberry / Thimbleberry**—For control, apply 2 quarts per acre of this product as a broadcast spray or as a 1 percent solution with hand-held equipment.

**Blackberry**—For control, apply 3 to 4 quarts per acre of this product as a broadcast spray, or 1 to 1.5 percent solution with hand-held equipment. Make application after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4 percent solution of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume with hand-held equipment. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.

**Broom: French, Scotch**—For control, apply a 1.5 to 2 percent solution with hand-held equipment.

**Buckwheat, California / Hasardia / Monkey Flower / Tobacco, tree**—For partial control of these species, apply a 1 to 2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Catsclaw**—For partial control, apply as a 1 to 1.5 percent solution with hand-held equipment.

**Coyote Brush**—For control, apply a 1.5 to 2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Eucalyptus**—For control of eucalyptus resprouts, apply a 2 percent solution of this product with hand-held equipment when resprouts are 6 to 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought-stressed plants.

**Kudzu**—For control, apply 4 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.

**Madrone resprouts**—For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

**Maple, red**—For control, apply as a 1 to 1.5 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre as a broadcast spray.

**Maple, sugar / Oak, northern pin / Oak, red**—For control, apply as a 1 to 1.5 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Poison Ivy / Poison Oak**—For control, apply 4 to 5 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications may be required to main-

tain control. Fall treatments must be applied before leaves lose green color.

**Rose, multiflora**—For control, apply 2 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

**Sage, black / Sagebrush, California / Chamise / Tallowtree, Chinese**—For control of these species, apply a 1 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Tan oak resprouts**—For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with fall applications.

**Willow**—For control, apply 3 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment.

**Other Woody Brush and Trees listed on this label**—For partial control, apply 2 to 5 quarts of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment.

### NONCROP USES

See "GENERAL INFORMATION" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for essential product performance information and the following "NONCROP" sections for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE TURFGRASSES, TREES, SHRUBS OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

This product does not provide residual weed control. For subsequent weed control, follow a label-approved herbicide program.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

### INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS

When applied as directed for "NONCROP USES" under conditions described, this product controls annual and perennial weeds listed on this label growing in areas such as airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, parking areas, parks, petroleum tank farms and pumping installations, pipelines, railroads, roadsides, schools, storage areas, other public areas and similar industrial or noncrop areas.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any noncrop site specified on this label. See the Selective Equipment part of "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

187

## TANK MIXTURES FOR INDUSTRIAL SITES

### HONCHO plus OUST™

Use on industrial sites including airports, industrial plants, lumberyards, petroleum tank farms, pumping stations, railroads, roadsides, storage areas or other similar sites where bare ground is desired.

When applied as directed for "NONCROP USES" under the conditions described, this product plus Oust provides control of annual weeds listed in the "WEEDS CONTROLLED" section of the label for this product and Oust, and control or partial control of the perennial weeds listed below.

Apply 1 to 2 quarts of this product with 2 to 4 ounces of Oust in 10 to 40 gallons of spray solution per acre as a broadcast spray to actively growing weeds.

This mixture may be applied by aerial equipment in site prep operations. When applied by air, use the recommended rates in 5 to 15 gallons of spray solution per acre.

This product plus Oust tank mixtures may not be applied by air in California.

For control of annual weeds, use the lower rates of these products.

For control of the listed perennial weeds, use the higher rates of both products. For partial control, use the lower rates.

Bahiagrass	Johnsongrass**
<i>Paspalum notatum</i>	<i>Sorghum halepense</i>
Bermudagrass*	Poorjoe**
<i>Cynodon dactylon</i>	<i>Diodia teres</i>
Broomsedge	Quackgrass
<i>Andropogon virginicus</i>	<i>Agropyron repens</i>

Dock, curly	Trumpet creeper*
<i>Rumex crispus</i>	<i>Campsis radicans</i>
Dogfennel	Vaseygrass
<i>Eupatorium capilliflorum</i>	<i>Paspalum urvillei</i>
Fescue, tall	Vervain, blue
<i>Festuca arundinacea</i>	<i>Verbena hastata</i>

\* Suppression at the higher rates only.

\*\* Control at the lower rates.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

## TANK MIXTURES NONCROP SITES

When applied as a tank mixture, this product provides control of the emerged annual weeds and partial control of the emerged perennial weeds listed in this label. When applied as a tank mixture, the following residual herbicides will provide preemergence control of the weeds listed in the individual product labels.

HONCHO plus DIURON

HONCHO plus KROVAR™ I

HONCHO plus KROVAR II

HONCHO plus RONSTAR™ 50WP

HONCHO plus SIMAZINE,  
PRINCEP CALIBER™ 90

HONCHO plus SIMAZINE 4L

HONCHO plus SIMAZINE 80W

188



**HONCHO plus SURFLAN™ 75W****HONCHO plus SURFLAN AS**

When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution. See the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label before preparing these tank mixtures.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

**CONTROL OF EMERGED WEEDS**

**NOTE:** For backpack sprayer and handgun applications, see the "HAND-HELD AND HIGH VOLUME EQUIPMENT" section for recommended rates.

**Annual Weeds**—Apply 1 quart per acre of this product in these tank mixtures when weeds are less than 6 inches tall and 1.5 quarts per acre when weeds are more than 6 inches tall.

**Perennial Weeds**—For partial control of perennial weeds using these tank mixtures, apply 2 to 5 quarts per acre of this product. Follow the recommendations in the "WEEDS CONTROLLED" section of this label for stage of growth and rate of application for specific perennial weeds.

**PREEMERGENCE WEED CONTROL**

For preemergence weed control, refer to the individual product labels for specific noncrop sites, rates, carrier volumes and precautionary statements.

Mix only the quantity of spray solution which can be used during the same day. Do not allow these tank mixtures to stand overnight as this may result in reduced weed control.

**FARMSTEAD WEED CONTROL**

When applied as directed for "NONCROP USES", under conditions described, this product controls undesirable vegetation listed on this label around farmstead building foundations, along and in fences, shelterbelts and for general nonselective farmstead weed control.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

**FARM DITCHES**

This product will suppress perennial grasses along farm ditches. Apply this product at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces per acre when treating tall (coarse) fescue, fine fescue, orchardgrass or quackgrass covers. For best suppression of these species, add ammonium sulfate at a rate of 1.7 pounds per 10 gallons of spray solution. Use 6 fluid ounces per acre without ammonium sulfate when treating Kentucky bluegrass.

Apply treatments in 10 to 20 gallons of spray solution per acre to actively growing perennial grass covers. For best spray distribution and coverage, use flat fan nozzles.

Add a nonionic surfactant at a rate of 0.5 percent of the spray solution.

Where broadleaf weed control or suppression is desired, tank mix this product with an appropriate, labeled broadleaf weed herbicide.

**CONSERVATION RESERVE PROGRAM  
(CRP ACRES)**

This product can be used to control undesirable vegetation when rotating out of CRP acres or to suppress competitive growth and seed production of undesirable vegetation in CRP acres.

For specific rates of application for various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

CRP applications may be made with wiper applicators or conventional spray equipment.

For selective applications with broadcast spray equipment, apply 12 to 16 ounces per acre of this product in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy. Some stunting of CRP perennial grasses will occur if applications are made when plants are not dormant.

### HABITAT MANAGEMENT

This product is recommended for the restoration and/or maintenance of native habitats and in wildlife management areas. Apply as recommended in the "NONCROP USES" section of this label.

**Habitat Restoration and Maintenance**—When applied as directed, exotic and other undesirable vegetation may be controlled in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broadspectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. For spot treatments, care should be exercised to keep spray off of desirable plants.

**Wildlife Food Plots**—This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after applying this product before tilling.

### ORNAMENTALS, TREE NURSERIES AND CHRISTMAS TREES

THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES

**NOTE:** Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

When applied as instructed for the conditions described for "NONCROP USES," this product controls undesirable vegetation listed on this label prior to planting, within and around greenhouses and shadehouses, and as a postdirected spray around established ornamentals and Christmas trees.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

**Site Preparation**—Following preplant applications of this product, any ornamental, nursery species or Christmas tree species may be planted. Precautions should be taken to protect nontarget plants during site preparation applications.

**Greenhouse / Shadehouse Use**—This product may be used to control weeds listed on this label which are growing in greenhouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

**Postdirected Spray**—Use as a postdirected spray around established woody ornamental species, nursery species or Christmas trees such as those listed below. Care must be exercised to avoid contact of spray, drift or mist with foliage of or green bark of established ornamental species.

190

Arbortvitae	Lilac
<i>Thuja</i> spp.	<i>Syringa</i> spp.
Azalea	Magnolia
<i>Rhododendron</i> spp.	<i>Magnolia</i> spp.
Boxwood	Maple
<i>Buxus</i> spp.	<i>Acer</i> spp.
Crabapple	Oak
<i>Malus</i> spp.	<i>Quercus</i> spp.
Euonymus	Privet
<i>Euonymus</i> spp.	<i>Ligustrum</i> spp.
Fir	Pine
<i>Abies</i> spp.	<i>Pinus</i> spp.
<i>Pseudotsuga</i> spp.	Spruce
Jojoba	<i>Picea</i> spp.
<i>Simmondsia chinensis</i>	Yew
Hollies	<i>Taxus</i> spp.
<i>Ilex</i> spp.	

### CUT STUMP TREATMENTS

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouts with this product. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut vegetation close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly-cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL or SUPPRESS many types of woody brush and tree species, some of which are listed below.

Alder	Saltcedar
<i>Alnus</i> spp.	<i>Tamarisk</i> spp.

Eucalyptus	Sweetgum
<i>Eucalyptus</i> spp.	<i>Liquidambar styraciflua</i>
Madrone	Tan Oak
<i>Arbutus menziesii</i>	<i>Lithocarpus densiflorus</i>
Oak	Willow
<i>Quercus</i> spp.	<i>Salix</i> spp.
Reed, giant	
<i>Arundo donax</i>	

### INJECTION AND FRILL APPLICATIONS

Woody vegetation may be controlled by injection or full application of this product. Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter (DBH). This is best achieved by applying a 50 to 100 percent concentration of this material either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as this, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, application should be made during periods of active growth and after full leaf expansion.

This treatment WILL CONTROL the following woody species:

Oak	Sweetgum
<i>Quercus</i> spp.	<i>Liquidambar styraciflua</i>
Poplar	Sycamore
<i>Populus</i> spp.	<i>Platanus occidentalis</i>

196

This treatment WILL SUPPRESS the following woody species:

Black gum	Hickory
<i>Nyssa sylvatica</i>	<i>Carya spp.</i>
Dogwood	Maple, red
<i>Cornus spp.</i>	<i>Acer rubrum</i>

## TURFGRASSES AND GRASSES FOR SEED PRODUCTION

### PREPLANT AND RENOVATION

When applied as directed for "NONCROP USES", under conditions described, this product controls most existing vegetation prior to the planting or renovation of either turfgrasses or grass seed production areas.

For specific rates of application and instructions for control of various annual and perennial weeds, and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

### TURFGRASSES

Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth listed in the "WEEDS CONTROLLED" section of this label.

Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

### GRASSES FOR SEED PRODUCTION

Apply this product to actively growing weeds at the stages of growth recommended in the "WEEDS CONTROLLED" section of this label prior to planting or renovation of turf or forage grass areas grown for seed production.

DO NOT feed or graze treated areas within 3 weeks after application.

### ANNUAL WEED CONTROL IN DORMANT BERMUDAGRASS AND BAHIAGRASS TURF

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Refer to the rate table for Honcho herbicide alone under the "RELEASE OF BERMUDAGRASS and BAHIAGRASS" section of this label for recommended rates and volumes on the species to be suppressed or controlled. Treat only when turf is dormant and prior to spring greenup. Spot treatments or broadcast applications of this product in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained turfgrass areas; i.e., golf courses, lawns, etc. DO NOT APPLY TANK MIXTURES of this product plus Oust in highly maintained turfgrass areas.

### RELEASE OF BERMUDAGRASS OR BAHIAGRASS

NOTE: Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. Use tank mixtures of this product plus Oust only on railroads, highways, and utility plant sites.

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant

192

bermudagrass or bahiagrass. This product may be tank-mixed with Dust as recommended for residual control. Make applications to dormant bermudagrass or bahiagrass. Tank mixtures of this product plus Dust may delay greenup. To avoid delays in greenup and minimize injury, do not add more than 1 ounce per acre of Dust on bermudagrass or more than 0.5 ounce per acre on bahiagrass, or treat when these grasses are in a semi-dormant condition.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is in or beyond the 4- to 6-leaf stage.

#### WEEDS CONTROLLED

Rate recommendations for control or suppression of winter annuals and tall fescue are listed below:

Apply the recommended rates of this product alone or as a tank mixture in 10 to 25 gallons of water, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre.

For the best recommendation for the mixture of weeds within your geographic area, contact your Monsanto sales representative.

#### WEEDS CONTROLLED OR SUPPRESSED WITH HONCHO ALONE\*

NOTE: C = Control  
S = Suppression

WEED SPECIES	HONCHO FLUID OZ/ACRE					
	8	12	16	24	32	64
Barley, little <i>Hordeum pusillum</i>	S	C	C	C	C	C
Bedstraw, catchweed <i>Galium aparine</i>	S	C	C	C	C	C
Bluegrass, annual <i>Poa annua</i>	S	C	C	C	C	C
Chervil <i>Chaerophyllum tainturieri</i>	S	C	C	C	C	C
Chickweed, common <i>Stellaria media</i>	S	C	C	C	C	C
Clover, crimson <i>Trifolium incarnatum</i>	-	S	S	C	C	C
Clover, large hop <i>Trifolium campestre</i>	-	S	S	C	C	C
Fescue, tall <i>Festuca arundinaceae</i>	-	-	-	-	S	S
Geranium, Carolina <i>Geranium carolinianum</i>	-	-	S	S	C	C
Henbit <i>Lamium amplexicaule</i>	-	S	C	C	C	C
Ryegrass Italian <i>Lolium multiflorum</i>	-	-	S	C	C	C
Speedwell, corn <i>Veronica arvensis</i>	S	C	C	C	C	C
Velch, common <i>Vicia sativa</i>	-	-	S	C	C	C

\*These rates apply only to sites where an established competitive turf is present.

193

# WEEDS CONTROLLED OR SUPPRESSED WITH HONCHO PLUS OUST\*

NOTE: C = Control  
S = Suppression

WEED SPECIES	HONCHO (FL. OZ/A) + OUST (OZ/A)	HONCHO + OUST						
		8 1/4	12 1/4	12 1/2	16 1/4	16 1/2	12 1	16 1
Barley, little <i>Hordeum pusillum</i>		C	C	C	C	C	C	C
Bedstraw, catchweed <i>Galium aparine</i>		C	C	C	C	C	C	C
Bluegrass, annual <i>Poa annua</i>		S	C	C	C	C	C	C
Chervil <i>Chaerophyllum tainturieri</i>		C	C	C	C	C	C	C
Chickweed, common <i>Stellaria media</i>		S	C	C	C	C	C	C
Clover, crimson <i>Trifolium incarnatum</i>		S	S	S	S	C	C	C
Clover, large hop <i>Trifolium campestre</i>		•	•	S	S	S	C	C
Fescue, tall <i>Festuca arundinaceae</i>		•	•	•	•	•	S	S
Geranium, Carolina <i>Geranium carolinianum</i>		•	S	S	C	C	C	C
Henbit <i>Lamium amplexicaule</i>		•	S	C	C	C	C	C
Ryegrass, Italian <i>Lolium multiflorum</i>		•	S	S	C	C	C	C

Speedwell, corn <i>Veronica arvensis</i>	S	C	C	C	C	C	C
Vetch, common <i>Vicia sativa</i>	C	C	C	C	C	C	C

\*These rates or mixtures of rates apply only to sites where an established competitive turf is present.

## ■ RELEASE OF ACTIVELY GROWING BERMUDAGRASS ■

When applied as directed, this product will aid in the release of bermudagrass by providing control of annual species listed in the "WEEDS CONTROLLED" section of this and the Oust label, and suppression or partial control of certain perennial weeds.

For control or suppression of those annual species listed on this label, use 1 to 3 pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation.

Use the higher rate of this product for partial control of the following perennial species. Use the lower rates for suppression of growth. For best results, see the "WEEDS CONTROLLED" section of this label for proper stage of growth.

Bahiagrass <i>Paspalum notatum</i>	Johnsongrass* <i>Sorghum halepense</i>
Bluestem, silver <i>Andropogon saccharoides</i>	Trumpet creeper** <i>Campsis radicans</i>
Fescue, tall <i>Festuca arundinacea</i>	Vaseygrass <i>Paspalum urvillei</i>

\*Control at the higher rates.

\*\*Suppression at higher rates only.

194

This product may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 2 pints per acre of this product with 1 to 2 ounces of Oust per acre.

Use the lower rates of both mixtures to control annual weeds below 6 inches in height (or runner length in annual vines) that are listed in the "WEEDS CONTROLLED" section of this booklet and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages.

Use the higher rates of this product to provide partial control of the following perennial weeds. Use the lower rates for suppression of growth.

Bahiagrass	Johnsongrass*
<i>Paspalum notatum</i>	<i>Sorghum halepense</i>
Bluestem, silver	Poorjoe**
<i>Andropogon saccharoides</i>	<i>Diodia teres</i>
Broomsedge	Trumpet creeper*
<i>Andropogon virginicus</i>	<i>Campsis radicans</i>
Dock, curly	Vaseygrass
<i>Rumex crispus</i>	<i>Paspalum urvillei</i>
Dogfennel	Vervain, blue
<i>Eupatorium capilliflorum</i>	<i>Verbena hastata</i>
Fescue, tall	
<i>Festuca arundinacea</i>	

\*Suppression at higher rates only.

\*\*Control at the higher rates.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may result.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

### COOL SEASON TURF GROWTH REGULATION

When applied as directed, this product will suppress growth and seedhead development of listed turf species in industrial sites.

This product is recommended for management of coarse turf in road-sides or other industrial areas. Do not use on high-quality turf or other areas where some turf color changes cannot be tolerated. Slight turf discoloration may occur but turf will regreen and regrow under moist conditions as effects of this product wear off.

Apply 4 to 6 fluid ounces of this product per acre alone or in a recommended tank mixture. Spray volumes of 10 to 40 gallons per acre are recommended.

When using this product, mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution.

This product can be used for growth and seedhead suppression of TALL FESCUE and SMOOTH BROME.

For best results, apply this product in a recommended tank mixture to actively growing turfgrasses after greenup in the spring of the year. For suppression of seedheads, applications must be made before boot-to-seedhead stage of development. Applications made from seedhead emergence until maturity may result in turf discoloration or injury.

After mowing or removal of seedheads, this product in a recommended tank mixture may also be used to suppress the growth of certain turfgrasses. Allow turf to recover from stress caused by heat, drought or mowing before making applications. Applications made to turf under stress may increase the potential for discoloration or injury.

195

**ANNUAL GRASSES:** For growth suppression of some annual grasses such as annual ryegrass, wild barley and wild oats, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

### TANK MIXTURES

For the following tank mixtures, consult each product label for weeds controlled and the correct stage of application. Do not treat turf under stress.

**Tank mixtures plus 2,4-D Amine:** For additional weed control benefits, up to 1 pound a.i. per acre of 2,4-D amine may be added to the following tank mixtures. Consult the label for 2,4-D amine for weeds controlled.

### TALL FESCUE

#### Honcho Herbicide plus Telar™

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.5 ounce of Telar per acre.

This tank mixture can also be applied after mowing or removal of tall fescue seedheads for turf growth suppression. Make only one of the above applications per growing season.

#### Honcho Herbicide plus Dust

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.25 ounce of Dust per acre.

#### Honcho Herbicide plus Escort™

This tank mixture can be applied after mowing or removal of tall fescue seedheads for turf growth suppression and control or partial control of some annual weeds. Use up to 1/3 ounce of Escort per acre.

### SMOOTH BROME

#### Honcho Herbicide plus Dust

For suppression of smooth brome growth and seedheads and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.25 ounce of Dust per acre.

### BAHAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION

When applied as directed in the indicated noncrop areas (roadsides, airports, golf course roughs, and plant sites), this product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days with sequential applications.

Apply this product 1 to 2 weeks after full greenup of bahagrass or after the bahagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces per acre of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume may be made at approximately 45 day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression, sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

196



A tank mixture of this product plus Oust may be applied only on roadsides for seedhead inhibition and vegetative suppression. Apply 6 fluid ounces per acre of this product plus 0.25 ounce per acre of Oust, plus 0.5 to 1 percent nonionic surfactant by total spray volume 1 to 2 weeks following an initial spring mowing. When using this product plus Oust for suppression of bahiagrass, make only 1 application per year.

### CROPPING SYSTEMS

When applied as directed for "CROPPING SYSTEMS", under the conditions described, this product controls annual and perennial weeds listed on this label, prior to the emergence of direct seeded crops or prior to transplanting of crops listed on this label.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for essential product performance information.

See the following "CROPPING SYSTEMS" sections for specific recommended uses.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.**

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Except as otherwise specified on this label, repeat treatments must be made before the crop emerges in accordance with the instructions of this label.

Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts per acre of this product per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

For any crop not listed below, applications must be made at least 30 days prior to planting.

Do not harvest or feed treated vegetation for 8 weeks following application. Following spot treatment or selective equipment use, allow 14 days before grazing domestic livestock or harvesting forage grasses and legumes.

#### ROW CROPS

CORN (ALL)\*

COTTON\*

PEANUTS

SORGHUM (MILO)\*

SOYBEANS\*

SUGARCANE\*

#### CEREAL GRAINS

BARLEY\*

BUCKWHEAT\*

MILLET (PEARL, PROSO)\*

OATS\*

RICE\*\*

RYE\*

TRITICALE\*

WHEAT (ALL)\*

WILD RICE\*

#### TANGELO

TANGERINE

TANGORS

#### TREE NUTS

ALMOND

BEECHNUT

BRAZIL NUT

BUTTERNUT

CASHEW

CHESTNUT

CHINQUAPIN

FILBERT (HAZELNUT)

HICKORY NUT

MACADAMIA

PECAN

PISTACHIO

WALNUT (BLACK, ENGLISH)

#### CITRUS

CALAMONDIN

CHIRONJA

CITRON

GRAPEFRUIT

KUMQUAT

LEMON

LIME

MANDARIN ORANGE

ORANGE (ALL)

PUMMELO

#### VINE CROPS

GRAPES

KIWI FRUIT

#### TREE FRUITS

APPLE

APRICOTS

CHERRY (SWEET, SOUR)

LOQUAT

MAYHAW

NECTARINE

TREE FRUITS (continued)

OLIVE  
PEACH  
PEAR  
PLUM/PRUNE (ALL)  
QUINCE

VEGETABLES

ARTICHOKE,  
JERUSALEM  
ASPARAGUS\*  
BEANS (ALL)  
BEET GREENS  
BEETS (RED, SUGAR)  
BROCCOLI (ALL)  
BRUSSELS SPROUTS  
CABBAGE (ALL)  
CABBAGE, CHINESE  
CANTALOUPE\*\*\*  
CARROT  
CAULIFLOWER  
CASABA MELON\*\*\*  
CELERIAC  
CELERY  
CHARD, SWISS  
CHICORY  
COLLARDS  
CRENSHAW MELON\*\*\*  
CUCUMBER\*\*\*  
EGGPLANT\*\*\*  
ENDIVE  
GARLIC\*\*\*  
GOURDS\*\*\*  
GROUND CHERRY\*\*\*  
HONEYDEW MELON\*\*\*  
HONEY BALL MELON\*\*\*

SPINACH (ALL)  
SQUASH  
(SUMMER, WINTER)\*\*\*  
TOMATILLO\*\*\*  
TOMATO\*\*\*†  
TURNIP  
WATERCRESS\*\*\*  
WATERMELON\*\*\*  
YAMS

SMALL FRUITS AND BERRIES

BLACKBERRY  
BLUEBERRY  
BOYSENBERRY  
CRANBERRY  
CURRANT  
DEWBERRY  
ELDERBERRY  
GOOSEBERRY  
HUCKLEBERRY  
LOGANBERRY  
OLALLIEBERRY  
RASPBERRY (BLACK, RED) :

FORAGE CROPS AND LEGUMES

ALFALFA\*  
FORAGE GRASSES\*  
FORAGE LEGUMES\*

TROPICAL CROPS

ACEROLA  
ATEMOYA  
AVOCADO  
BANANA  
BREADFRUIT  
CANISTEL  
CARAMBOLA

HORSE RADISH  
KALE  
KOHLRABI  
LEEK  
LENTILS  
LETTUCE  
MANGO MELON\*\*\*  
MELONS (ALL)\*\*\*  
MUSKMELON\*\*\*  
MUSTARD GREENS  
OKRA  
ONION  
PARSLEY  
PARSNIPS  
PEAS (ALL)  
PEPPER (ALL)\*\*\*  
PERSIAN MELON\*\*\*  
POTATO (IRISH, SWEET)  
PUMPKIN\*\*\*  
RADISH  
RAPE GREENS  
RHUBARB  
RUTABAGA  
SHALLOT

CHERIMOYA  
COCOA BEANS  
COFFEE  
DATES  
FIGS  
GENIP  
GUAVA  
JABOTICABA  
JACKFRUIT  
LONGAN  
LYCHEE  
MANGO  
PAPAYA  
PASSION FRUIT  
PERSIMMONS  
PINEAPPLE\*\*\*\*  
PLANTAINS  
POMEGRANATE  
SAPODILLA  
SAPOTE (BLACK, MAMEY,  
WHITE)  
SOURSOP  
SUGAR APPLE  
TAMARIND  
TEA

\*Spot treatments may be applied in these crops.

\*\*Do not treat rice fields or levees when the fields contain flood water.

\*\*\*Apply only prior to planting. Allow at least 3 days between application and planting.

\*\*\*\*Do not feed or graze treated pineapple forage following application.

†Use is restricted to direct seeded crops only.

198

When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to transplanting. Residues can be removed by a single 0.5 inch application of water, either by natural rainfall or via a sprinkler irrigation system. Applications made at emergence will result in injury or death to emerged seedlings.

**Spot Treatment** (Only those crops with "\*" can be spot treated.) — Applications in growing crops must be made prior to heading of small grains and milo, initial pod set in soybeans, silking of corn, or boll opening on cotton.

For dilution and rates of application using boom or hand-held equipment, see "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" and "WEEDS CONTROLLED" sections of this label.

For forage grasses and forage legumes see "SPOT TREATMENT" in the "PASTURES" section of "CROPPING SYSTEMS" in this label.

**NOTE:** FOR FORAGE GRASSES AND FORAGE LEGUMES, NO MORE THAN ONE-TENTH OF ANY ACRE SHOULD BE TREATED AT ONE TIME. FOR ALL OTHER CROPS, DO NOT TREAT MORE THAN 10 PERCENT OF THE TOTAL FIELD AREA TO BE HARVESTED.

THE CROP RECEIVING SPRAY IN TREATED AREA WILL BE KILLED. TAKE CARE TO AVOID DRIFT OR SPRAY OUTSIDE TARGET AREA FOR THE SAME REASON.

**Selective Equipment**—This product may be applied through recirculating sprayers, shielded applicators or wiper applicators in cotton and soybeans. Shielded and wiper applicators may also be used in tree crops and grapes. Wiper applicators may be used in wheat, rutabagas, forage grasses and forage legumes, including pasture sites and grain sorghum (milo).

See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

Allow at least the following time intervals between application and harvest:

Cotton, Soybeans .....	7 days
Apples, Citrus, Pear .....	1 day
Atemoya, Avocado, Breadfruit, Canistel, Carambola, Cherry, Grapes, Dates, Jaboticaba, Jackfruit, Longan, Lychee, Passion Fruit, Persimmons, Rutabagas, Sapodilla, Sapote, Soursop, Sugar Apple, Tamarind .....	14 days
Stone Fruit .....	17 days
Nut Crops .....	3 days
Wheat <sup>1</sup> .....	35 days
Sorghum (milo) <sup>1,2</sup> .....	40 days

<sup>1</sup> Do not use roller applicators.

<sup>2</sup> Do not feed or graze treated milo (fodder). Do not ensile treated vegetation.

## ASPARAGUS

When applied as directed for "CROPPING SYSTEMS" under the conditions described, this product controls weeds listed on this label in asparagus.

For specific rates of applications and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

**Prior to Crop Emergence**—Apply this product prior to crop emergence for the control of emerged labeled annual and perennial weeds. DO NOT APPLY WITHIN A WEEK BEFORE THE FIRST SPEARS EMERGE.

**Spot Treatment**—Apply this product immediately after cutting, but prior to the emergence of new spears. Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

189

**Postharvest**—Apply this product after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears. Direct contact of the spray with the asparagus may result in serious crop injury.

**NOTE:** Select and use recommended types of spray equipment for postemergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

## BERRIES AND SMALL FRUITS

Wiper applicators may be used in cranberries in accordance with instructions in this section.

For other berries, apply as a preplant broadcast application, or as a directed spray or wiper application post-planting.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for essential product performance information.

See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for information on recommended use and calibration of this equipment.

Allow a minimum of 30 days between last application and harvest of cranberries. For other small fruits and berries, allow a minimum of 14 days between last application and harvest.

**For Wick or other Wiper Applicators**—Mix 1 gallon of this product in 4 gallons of water to prepare a 20 percent solution.

In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes or foliage.

## CORN

**Hooded Sprayers**—This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used.

A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution. This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. The spray hoods must be operated on the ground or skimming across the ground. Tractor speed must be adjusted to avoid bouncing of the spray hoods. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

When applying to corn that is grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows.

Follow these requirements:

- The spray hoods must be operated on the ground or skimming across the ground.
- Do not apply more than 1 quart of this product per acre per application.
- Corn must be at least 12 inches tall, measured without extending leaves.

200

- Leave at least an 8 inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.
- Maximum tractor speed: 5 mph.
- Maximum wind speed: 10 mph.
- Use low-drift nozzles.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

Do not graze or feed corn forage or fodder following applications of this product through hooded sprayers.

Do not apply more than 3 quarts of this product per acre per year for hooded sprayer applications.

## FALLOW AND REDUCED TILLAGE SYSTEMS

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO SUPPLEMENTAL LABEL.

Use this product in fallow and reduced tillage systems for control of annual weeds prior to emergence of crops listed in this label. Refer to the "WEEDS CONTROLLED" section of this label for specific rates and instructions. This product may be applied using ground or aerial spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions.

### TANK MIXTURES

**HONCHO plus BANVEL**  
plus NONIONIC SURFACTANT

**HONCHO plus 2,4-D**  
plus NONIONIC SURFACTANT

DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

Applications of 2,4-D or Banvel must be made at least 7 days prior to planting corn.

The addition of Banvel in a mixture with this product may provide short-term residual control of selected weed species. Some crop injury may occur if Banvel is applied within 45 days of planting. Refer to the Banvel and 2,4-D labels for cropping restrictions and other use instructions.

201

### HONCHO plus GOAL™ plus NONIONIC SURFACTANT

This product alone or in tank mixtures with Goal plus 0.5 to 1 percent nonionic surfactant by total spray volume will provide control of those weeds listed below.

Make applications when weeds are actively growing and at the recommended stages of growth. Avoid spraying when weeds are subject to moisture stress, when dust is on the foliage or when straw canopy covers the weeds.

Honcho 12 fluid oz/acre		Honcho 16 fluid oz/acre	
Wheat	18"	Annual grasses at left plus:	
Barley	12"	Ryegrass,	
Bluegrass,		annual	6"
annual	6"	Chickweed	6"
Barnyardgrass	6"	Groundsel	6"
Rye	6"	Marestail	6"
		Rocket, London	6"
		Shepherd's-purse	6"
		Crabgrass	12"
		Johnsongrass,	
		seedling	12"
		Lambsquarters	12"
		Oats, wild	12"
		Pigweed, redroot	12"
		Mustards	12"

NOTE: Use 32 fluid ounces of this product per acre where heavy weed densities exist.

Honcho 12 fluid oz/acre + GOAL ** 2 to 4 fluid oz/acre		Honcho 16 fluid oz/acre + GOAL ** 2 to 4 fluid oz/acre	
Annual grasses above plus:		Annual weeds above plus:	
Cheeseweed,		Cheeseweed,	
common	3"	common	6"
Chickweed	3"	Groundsel	6"
Groundsel	3"	Chickweed	12"
Rocket, London	6"	Rocket, London	12"
Shepherd's-purse	6"	Shepherd's-purse	12"

NOTE: Use 32 fluid ounces of this product per acre in mixtures with 2 to 4 fluid ounces of Goal per acre where heavy weed densities exist.

\* Maximum height or length in inches.

\*\* Use the higher rate of Goal when weeds approach maximum recommended height or stands are dense.

These recommended tank mixtures may be applied using ground or aerial spray equipment. Refer to the "WEEDS CONTROLLED" section of this label for specific rates and instructions.

### ECOFARMING SYSTEMS

The recommendations made in this section are not registered for use in California.

The Ecofarming System consists of the following rotation: winter wheat, corn/sorghum, ecofallow.

Use the following tank mixtures for control of emerged annual weeds before planting corn or sorghum in the Ecofarming System.

**HONCHO at 16 to 20 fluid ounces per acre plus  
2,4-D at 0.375 to 0.5 pound a.i. per acre plus  
ATRAZINE at 0.75 to 1 pound a.i. per acre plus  
LASSO® at 2.5 to 3 quarts per acre**

The above tank mixture should be applied in 28-0-0 or 32-0-0 liquid fertilizer carrier at 20 to 30 gallons per acre. The liquid fertilizer may be diluted with water to achieve the desired carrier volume.

202

**WEEDS CONTROLLED**—The following weeds, up to a maximum height of 4 inches, will be controlled:

<b>Brome, downy</b> <i>Bromus tectorum</i>	<b>Lettuce, prickly</b> <i>Lactuca scariola</i>
<b>Cheat</b> <i>Bromus secalinus</i>	<b>Pigweed, redroot</b> <i>Amaranthus retroflexus</i>
<b>Foxtail, green</b> <i>Setaria viridis</i>	<b>Thistle, Russian</b> <i>Salsola kali</i>
<b>Foxtail, yellow</b> <i>Setaria lutescens</i>	<b>Wheat, volunteer</b> <i>Triticum aestivum</i>
<b>Kochia*</b> <i>Kochia scoparia</i>	

\*For improved control of kochia, add 4 fluid ounces per acre (0.125 pound a.i. per acre) of Banvel to the above tank mixture.

Risk of crop injury from 2,4-D or Banvel can be reduced by applying this treatment 7 to 14 days before planting.

Refer to the label booklet for Lasso herbicide for preemergence weed control achieved by this tank mixture.

Refer to the specific product labels for crop rotation restrictions and cautionary statements for all products used in these tank mixtures.

#### AID TO TILLAGE

This product, when used in conjunction with preplant tillage practices, will provide control of downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make applications when weeds are actively growing and before they are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage. Tank mixtures with residual herbicides may result in reduced performance.

#### POSTHARVEST GRAIN SORGHUM, SORGHUM REGROWTH CONTROL

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of this product per acre for control, or 1.5 pints of this product per acre for suppression. Use 0.5 percent nonionic surfactant in 3 to 10 gallons of spray solution per acre.

#### PASTURES

Apply this product prior to planting forage grasses and legumes.

**Pasture or Hay Crop Renovation**—When applied as a broadcast spray, this product controls the annual and perennial weeds listed in this label prior to planting forage grasses or legumes. Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

**Spot Treatment**—When applied as a spot treatment as recommended, this product controls annual and perennial weeds listed in this label which are growing in pastures, forage grasses and forage legumes composed of bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa or clover.

**Wiper Application**—When applied as directed, this product controls or suppresses the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label.

For spot treatment and wiper application, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Further applications may be made in the same area at 30-day intervals. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

203

## SUGARCANE

When applied as directed for "CROPPING SYSTEMS", under the conditions described, this product controls those emerged annual and perennial weeds listed on this label growing in or around sugarcane or in fields prior to the emergence of plant cane. This product will also control undesirable sugarcane.

**NOTE:** Where repeat treatments are necessary, do not exceed a total of 10.6 quarts of this product per acre per year. Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

**Broadcast Treatment**—Apply this product in 10 to 40 gallons of water per acre on emerged weeds prior to the emergence of plant cane.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

For removal of last stubble or ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 or more new leaves. Allow 7 or more days after application before tillage.

**Spot Treatment in or Around Sugarcane Fields**—For dilution and rates of application using hand-held equipment, see "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" and "WEEDS CONTROLLED" sections of this label.

For control of volunteer or diseased sugarcane, make a 1 percent solution of this product in water and spray to wet the foliage of vegetation to be controlled.

**NOTE:** When spraying volunteer or diseased sugarcane, the plants should have at least 7 new leaves.

Avoid spray contact with healthy cane plants since severe damage or destruction may result.

Do not feed or graze treated sugarcane forage following application.

## CONSERVATION TILLAGE, MINIMUM TILLAGE AND NO-TILL SYSTEMS CORN AND SOYBEANS

### TANK MIXTURES

The recommendations made in this section are not registered for use in California.

When applied as recommended under the conditions described, the tank mixtures listed in this section control many emerged weeds, and give preemergence control of many annual weeds where corn or soybeans will be planted directly into a cover crop, established sod or in previous crop residues.

Refer to specific product labels for crop rotation restrictions and cautionary statements of all products used in these tank mixtures. For mixing instructions, see the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label.

Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre before, during or after planting. Do not apply these mixtures after crop emergence.

When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution. The addition of 1 to 2 percent dry ammonium sulfate by weight may increase the performance of this product.

**NOTE:** When using these tank mixtures, do not exceed 4 quarts of this product per acre.



## CORN

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

Atrazine	Lasso/Alachlor
Bicep MAGNUM <sup>TM</sup>	Micro-Tech <sup>®</sup>
Bullet <sup>®</sup>	Partner <sup>®</sup>
Cyanazine	Prowl <sup>TM</sup>
Dual MAGNUM <sup>TM</sup>	Simazine
Lariat <sup>®</sup>	

For improved burndown, this product may be tank-mixed with 2,4-D or dicamba. Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn. See the "WEEDS CONTROLLED" section for specific rate information.

## SOYBEANS

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

Canopy <sup>TM</sup>	Partner
Command <sup>TM</sup>	Preview <sup>TM</sup>
Dual MAGNUM	Prowl
Gemini <sup>TM</sup>	Pursuit <sup>TM</sup>
Lasso/Alachlor	Pursuit Plus <sup>TM</sup>
Lexone <sup>TM</sup>	Scepter <sup>TM</sup>
Linuron	Sencor <sup>TM</sup>
Lorex <sup>TM</sup> Plus	Squadron <sup>TM</sup>
Micro-Tech <sup>®</sup>	Turbo <sup>TM</sup>

For improved burndown, this product may be tank-mixed with the following herbicides:

2,4-DB

2,4-D\*

\*See the label for 2,4-D for intervals between application and planting.

## CORN AND SOYBEANS

**Annual Weeds**—For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall. For a complete list of annual weeds controlled, see the "WEEDS CONTROLLED" section of this label.

**Perennial Weeds**—At normal application times in minimum tillage systems, perennial weeds may not be at the proper stage of growth for control. See the "WEEDS CONTROLLED" section of this label for the proper stage of growth for perennial weeds.

Use of 2 to 4 quarts of this product per acre in the tank mixtures mentioned above, under these conditions provides top kill and reduces competition from many emerged perennial grass and broadleaf weeds. For emerged perennial weeds controlled, see the "WEEDS CONTROLLED" section of this label.

To obtain the desired stage of growth, it may be necessary to apply this product alone in the late summer or fall and then follow with a label-approved, seedling weed-control program at planting.

USE OF THESE TANK MIXTURES FOR BERMUDAGRASS OR JOHNSONGRASS CONTROL IN MINIMUM TILLAGE SYSTEMS IS NOT RECOMMENDED. For bermudagrass control, follow the instructions under "CONTROL OF PERENNIAL WEEDS" section of this label and then use a label-approved, seedling weed-control program in a minimum tillage or conventional tillage system. For Johnsongrass control, follow instructions under "CONTROL OF PERENNIAL WEEDS" section of this label, and then use a label-approved, seedling weed-control program with conventional tillage.

205

## PREHARVEST APPLICATIONS

When applied as directed under the conditions described, this product controls annual and perennial weeds listed on this label prior to the harvest of cotton, soybeans, grain sorghum (milo), and wheat.

For specific rates and application instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

This product may be applied by both ground and aerial application equipment. DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT BY AIR. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions for ground and aerial applications.

**NOTE:** Do not apply to crops grown for seed. Reduction in germination or vigor may occur.

The use of this product for preharvest grain sorghum (milo) is not registered in California.

### ■ SOYBEANS ■

Apply after pods have set and lost all green color. Allow a minimum of 7 days between application and harvest of soybeans. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application.

DO NOT APPLY MORE THAN 6 QUARTS PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS.

### ■ COTTON ■

**Broadcast Applications**—This product may be applied using either aerial or ground spray equipment. For ground applications with broadcast equipment, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

This product provides weed control and cotton regrowth inhibition when applied prior to the harvest of cotton. Apply 1 to 2 quarts of this product in 3 to 10 gallons of water per acre for cotton regrowth inhibition. Do not apply more than 2 quarts of this product per acre for preharvest applications. THE USE OF ADDITIVES FOR PREHARVEST APPLICATION TO COTTON IS PROHIBITED.

This product may be tank mixed with DEF<sup>TM</sup> 6, Folex<sup>TM</sup>, or Prep<sup>TM</sup> to provide additional enhancement of cotton leaf drop.

Allow a minimum of 7 days between application and harvest of cotton.

Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

Do not feed or graze treated cotton forage or hay following preharvest applications.

### ■ GRAIN SORGHUM (MILO) ■

Make applications at 30 percent grain moisture or less and at least 7 days prior to harvest.

Apply up to 2 quarts of this product per acre.

### ■ WHEAT ■

Apply after the hard-dough stage of grain (30 percent or less grain moisture) and at least 7 days prior to harvest.

DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS TO WHEAT.

206

## TREE AND VINE CROPS

This product is recommended for weed control in established groves, vineyards, and orchards, or for site preparation prior to transplanting crops listed in this section. Applications may be made with boom equipment, COA, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed in this section. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for specific information on use of equipment.

When applying this product, refer to the "WEEDS CONTROLLED" section of this label and to specific recommendations in this section for rates to be used.

**NOTE:** Repeat treatments may be necessary to control weeds originating from underground parts of untreated weeds or from seeds. This product does not provide residual weed control. For subsequent weed control, use repeated applications of this product. Do not apply more than 10.6 quarts of this product per acre per year.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT OR OTHER PARTS OF TREES OR VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.**

**AVOID PAINTING OUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES.**

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut and have not been allowed to regrow to the recommended stage for treatment.

For specific rates of applications and instructions, see the "WEEDS CONTROLLED" section of this label, and to specific recommendations which follow.

## MIDDLES MANAGEMENT (For Annual Weeds in Middles Between Rows of Tree and Vine Crops)

For citrus crops, treat uniformly between trees.

### HONCHO

or

### HONCHO plus GOAL

This product alone or in mixtures with Goal will control or suppress the annual weeds listed below.

Apply the recommended rates of this product, either alone or in mixtures with Goal, plus 0.5 to 1 percent nonionic surfactant by spray volume in 3 to 10 gallons of water per acre. Apply when weeds are actively growing and less than 6 inches in height or diameter. If weeds are under drought stress, irrigate prior to application. Reduced control may occur if weeds have been mowed prior to application. Up to 48 fluid ounces per acre of this product may be used to control weeds, which have been mowed, are stressed or are growing in dense populations.

WEED SPECIES	MAXIMUM HEIGHT/ DIAMETER (INCHES)	RATE PER ACRE	
		HONCHO (FLUID OUNCES)	GOAL (FLUID OUNCES)
Barley <i>Hordeum vulgare</i>	6	8	—
Bluegrass, annual <i>Poa annua</i>			
Barnyardgrass <i>Echinochloa crus-galli</i>	6	12	—
Chickweed, common <i>Stellaria media</i>			
Red Maids <i>Calandrinia ciliata</i>			

207

WEED SPECIES	MAXIMUM HEIGHT/ DIAMETER (INCHES)	RATE PER ACRE	
		HONCHO (FLUID OUNCES)	GOAL (FLUID OUNCES)
Crabgrass <i>Digitaria spp.</i>	6	16	—
Fleabane, hairy <i>Conyza bonariensis</i>		OR	
Groundsel, common <i>Senecio vulgaris</i>		16 to 32	+ 4 to 16**
Jungle rice <i>Echinochloa colonum</i>			
Lambsquarters, common <i>Chenopodium album</i>			
Pigweed, redroot <i>Amaranthus retroflexus</i>			
Rocket, London <i>Sisymbrium irio</i>			
Ryegrass, common <i>Lolium multiflorum</i>			
Shepherd's-purse <i>Capsella bursa-pastoris</i>			
Sowthistle, annual <i>Sonchus oleraceus</i>			
Cheeseweed, common <i>Malva spp.</i>	3	12 to 32	+ 4 to 16
Cheeseweed, common <i>Malva spp.</i>	6	16 to 32	+ 4 to 16

Filaree* <i>Erodium spp.</i>		
Horseweed/Marestail <i>Conyza canadensis</i>		
Nettle, stinging <i>Urtica dioica</i>		
Purselane, common* <i>Portulaca oleracea</i>		

\* Suppression only.

\*\* The mixture of this product plus Goal is recommended when weeds are stressed or growing in dense populations.

### STRIPS

(For Annual and Perennial Weeds in Strips  
of Tree and Vine Crops)

#### ■ TANK MIXTURES WITH RESIDUAL HERBICIDES ■

When applied as a tank mixture, this product provides control of the emerged annual weeds and control or suppression of emerged perennial weeds listed in this label. The following residual herbicides will provide preemergence control of those weeds listed in the individual product labels.

HONCHO plus GOAL 2XL

HONCHO plus KARMEX™ DF

HONCHO plus KROVAR I

HONCHO plus KROVAR II

HONCHO plus SIMAZINE, PRINCEP CALIBER 90

HONCHO plus SIMAZINE 4L

HONCHO plus SIMAZINE 80W

208

**HONCHO plus SOLICAM™ 80DF**  
**HONCHO plus SURFLAN AS**  
**HONCHO plus SURFLAN 75W**  
**HONCHO plus SIMAZINE**  
**(80W, or 4L, or PRINCEP CALIBER 90)**  
**plus SURFLAN (AS or 75W)**  
**HONCHO plus GOAL 2XL**  
**plus SURFLAN (AS or 75W)**  
**HONCHO plus GOAL 2XL**  
**plus SIMAZINE (80W, or 4L, or PRINCEP CALIBER 90)**  
**HONCHO plus GOAL 2XL**  
**plus SURFLAN (AS or 75W) plus SIMAZINE**  
**(80W, 4L, or PRINCEP CALIBER 90)**

Do not apply these tank mixtures in Puerto Rico.

When tank-mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution.

Refer to the individual product labels for specific crops, rates, geographical restrictions and precautionary statements.

Read and carefully observe the label claims, cautionary statements, rates and all other information on the labels of all products.

#### RECOMMENDED RATES

**Annual Weeds**—Apply 1 to 5 quarts per acre of this product in these tank mixtures. Use rates at the higher end of the recommended range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.

**Perennial Weeds**—Apply 1 pint to 5 quarts per acre of this product in these tank mixtures to control or suppress perennial weeds. Follow the recommendations in the "WEEDS CONTROLLED" section of this label for stage of growth and application rates for specific perennial weeds.

#### ■ HONCHO plus GOAL plus SIMAZINE/SURFLAN ■

This product plus low rates of Goal in 3-way or 4-way mixtures with simazine and/or Surflan will provide postemergence control of the weeds listed below.

Refer to the individual simazine and Surflan labels for preemergence rates, weeds controlled, precautionary statements and other important information.

Apply these tank mixtures in 3 to 40 gallons of water. Add 0.5 to 1 percent nonionic surfactant by total spray volume to the spray solution.

Apply 1 to 5 quarts per acre of this product plus 4 to 48 fluid ounces per acre of Goal plus labeled rates of simazine and/or Surflan to control the following weeds:

Barley, wild <i>Hordeum leporinum</i>	Horseweed/Marestail <i>Conyza canadensis</i>
Bluegrass, annual <i>Poa annua</i>	Nettle, stinging <i>Urtica dioica</i>
Cheeseweed, common <i>Malva spp.</i>	Pineappleweed <i>Matricaria matricanodes</i>
Chickweed, common <i>Stellaria media</i>	Rocket, London <i>Sisymbrium irio</i>
Filaree* <i>Erodium spp.</i>	Shepherd's-purse <i>Capsella bursa-pastoris</i>
Fieabane, hairy <i>Conyza bonariensis</i>	Sowthistle, annual <i>Sonchus oleraceus</i>
Groundsel, common <i>Senecio vulgaris</i>	

\*Use a minimum of 1.5 quarts of this product in these mixtures.

NOTE: This recommendation does not preclude the use of Goal in these mixtures at higher, labeled rates for preemergence weed control.

### PERENNIAL GRASS SUPPRESSION ORCHARD FLOORS

When applied as directed, this product will suppress vegetative growth as indicated below.

#### BAHIA GRASS

This product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with a single application and approximately 120 days with sequential applications. Apply this product 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus nonionic surfactant may be made at approximately 45-day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression, sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces may be made approximately 45 days after the last application.

#### BERMUDA GRASS

For burndown, apply 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre. Use 1 quart of this product in 3 to 20 gallons of water per acre east of the Rocky Mountains. Use 1 to 2 quarts of this product in 3 to 10 gallons of water per acre west of the Rocky Mountains. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

Suppression only (east of the Rocky Mountains)—Apply 6 to 16 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Rates of 6 to 10 fluid ounces of this product plus nonionic surfactant should be used in shaded conditions or where a lesser degree of suppression is desired. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.

Suppression only (west of the Rocky Mountains)—Apply 16 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre to bermudagrass up to 6 inches in height and no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.

#### COOL SEASON GRASS COVERS

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. For best suppression, add ammonium sulfate to the spray solution at a rate of 2 percent by weight or 17 pounds per 100 gallons of spray solution.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant. Do not add ammonium sulfate.

For best results, mow cool-season grass covers in the spring to even their height and apply the recommended rate of this product 3 to 4 days after mowing. Avoid treating cool season grass covers under poor growing conditions, such as drought stress (drip irrigation), disease or insect damage.

## LOW VOLUME APPLICATION (Florida and Texas)

For burndown or control of the weeds listed, apply the recommended rates of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

### ANNUAL WEEDS

**Goatweed**—Apply 2 to 3 quarts per acre of this product plus 17 pounds of ammonium sulfate per 100 gallons of water plus 0.5 to 1 percent nonionic surfactant by total spray volume. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches. If goatweed is greater than 8 inches tall, the addition of Krovar II or Karmex may improve control. Use labeled rates for these residual products.

Read and carefully observe the label claims, cautionary statements, rates and all other information on the Krovar II and Karmex labels.

### PERENNIAL WEEDS

Apply when weeds are actively growing and at the growth stages listed in the "PERENNIAL WEEDS CONTROLLED" section of this label. If perennial weeds are mowed, allow weeds to regrow to the recommended stage of growth.

S = Suppression  
PC = Partial control

B = Burndown  
C = Control

WEED SPECIES	HONCHO RATE PER ACRE			
	1 qt	2 qts	3 qts	5 qts
Bermudagrass	B	•	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	•	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	•	PC	C

## TREE CROPS

**Citrus\*\*\*\*\***: calamondin, chironja, citron, grapefruit, kumquat, lemon, lime, mandarin orange, orange, pummelo, tangelo, tangerine, tangors.

**Nuts\*\***: almond, beechnut, Brazil nut, butternut, cashew, chestnuts, chinquapin, filbert, hazel nut, hickory nut, macadamia, pecan, pistachio, walnut.

**Pome Fruit\*\*\*\*\***: apple, loquat, mayhaw, pear, quince.

**Stone Fruit\*\*\***: apricots, cherries, nectarines, olives, peaches, plums/prunes.

For cherries, any application equipment listed in this section may be used in all states.

For citron and olives, apply as a directed spray only.

Any application equipment listed in this section may be used in apricots, nectarines, peaches and plums/prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah and Washington, except for peaches grown in the states specified in the following paragraph. In all other states use wiper equipment only.

For PEACHES grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator, which prevents any contact of this product with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees which have been planted in the orchard for 2 or more years. EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.

211

**Tropical Fruit:** acerola\*, atemoya\*, avocado\*, banana\*\*\*\*\*, breadfruit\*, canistel\*, carambola\*, cherimoya\*, cocoa beans\*, coffee\*\*\*\*, dates\*, figs\*, genip\*, guava\*\*\*\*\*, jaboticaba\*, jackfruit\*, longan\*, lychee\*, mango\*, mayhaw\*, papaya\*\*\*\*\*, passion fruit\*, persimmons\*, plantains\*\*\*\*\*, pomegranate\*, sapodilla\*, sapote\*, soursop\*, sugar apple\*, tamarind\*, tea\*. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

**NOTE:**

- \* Allow a minimum of 14 days between last application and harvest.
- \*\* Allow a minimum of 3 days between last application and harvest.
- \*\*\* Allow a minimum of 17 days between last application and harvest.
- \*\*\*\* Allow a minimum of 28 days between last application and harvest.
- \*\*\*\*\* Allow a minimum of 1 day between last application and harvest.

### VINE CROPS

#### Kiwi Fruit

**Grapes:** Any variety of table, wine or raisin grape may be treated with any equipment listed in this section.

Applications should not be made when green shoots, canes, or foliage are in the spray zone.

Allow a minimum of 14 days between last application and harvest.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury.

Bullet, Honcho, Lariat, Lasso, Micro-Tech and Partner are registered trademarks and Monsanto and the Vine symbol are trademarks of Monsanto Technology LLC.

Canopy, Escort, Kvoar, Lexone, Oust and Telar are trademarks of E.I. duPont de Nemours and Co. Inc.

Boundary, Bicep MAGNUM, Dual MAGNUM, Princep, Princep Caliber and Solicam are trademarks of Syngenta Crop Protection Inc.

Surflan and Goal are trademarks of Dow AgroSciences LLC.

Banvel, Prowl, Pursuit, Pursuit Plus, Scepter and Squadron are trademarks of BASF Corp.

Ronstar, Folex and Prep are trademarks of Aventis CropSciences.

DEF and Sencor are trademarks of Bayer Crop Protection.

Command is a trademark of FMC Corporation.

Xarmex and Lorox are trademarks of Griffin LLC.

212



No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-445

2115223-3/53

---

In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

---

© 2002 MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167 U.S.A.

MONSANTO



213

No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-445

21152Z3-3/53

---

In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

---

© 2002 MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167 U.S.A.

MONSANTO



214

MONSANTO



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
PHONE (202) 783-2460  
FAX (202) 783-2468  
<http://www.monsanto.com>

February 5, 2002

Document Processing Center (NOTIF)  
Office of Pesticide Programs (7504C)  
U. S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Rascal® Herbicide (EPA Reg. No. 524-445)  
Final Printed Labeling  
Reprinted Booklet

Dear Mr. Tompkins:

Rascal Herbicide is one of the IPA-glyphosate herbicide brands registered as 524-445. The brand name was first notified to the Agency on 17-Oct-1997 and version-1 of the Final Printed Booklet labeling was submitted 14-Jan-1998. We have now produced a reprint of this booklet text, identified as Print Plate 21151Z3-1/53 and dated 2002-1. Five copies are provided for your use.

The text of the labeling is based on the 29-Dec-2000 EPA stamped approval of a label for Honcho Herbicide, an alternate brand name on this same registration. The principal reason for the reprinting is to voluntarily delete Forestry and Rights of Way use sites from the Directions for Use; the non-crop product uses are now limited to turf, ornamentals, and industrial sites. Text deletions related to this are as follows:

- In the list of allowed non-crop sites on page 53, "power and telephone rights of way" was voluntarily deleted.
- References to uses in Forestry Site Preparation were voluntarily deleted from pages 54.
- A 5-page section of use instructions entitled "SILVICULTURAL SITES AND RIGHTS OF WAY" pertaining to forestry uses that had begun on page 60 were voluntarily deleted.

215

- In the list of use sites for Bermudagrass and Bahiagrass release, at the bottom of page 63, the phrase "other rights of way areas" was voluntarily deleted.
- In the list of use sites for COOL SEASON TURF GROWTH REGULATION on page 69, the phrase "rights of way" was voluntarily deleted.

Three other very minor housekeeping changes were made:

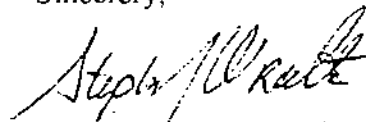
- Relocate the paragraph "Domestic Animals" from page 10 to page 5.
- At the Agency's request (verbal, 28-Feb-2001) the phrase on page 25 'See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for approved sites' was changed to 'See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information'. The original statement was an error, because the referenced section does not contain site information.
- The printed order of two sentences on page 76 was reversed, so that the cross-reference sentence about forage grasses now appears next to the NOTE about forage grasses, which seemed more sensible.

*This notification of minor label revisions during preparation of the Final Printed Label are consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR§ 152.46, and no other changes (beside those outlined herein) have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 USC Sec. 1001 to willfully make any false statements to the EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement actions and penalties under sections 12 and 14 of FIFRA.*

*The changes consist of voluntary removal of approved use sites and specific format changes that correct earlier errors or improve understanding.*

If you have any questions on this matter please feel free to contact me through Dr. Marsha C. Gray (202-383-2878) or by direct phone (314-694-1582), fax (314-694-4028), or electronic mail at [stephen.j.wratten@monsanto.com](mailto:stephen.j.wratten@monsanto.com).

Sincerely,



Stephen J. Wratten  
Manager, Registrations

cc: M. C. Gray

Rascal FPL.doc

216



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

287941

## Application for Pesticide - Section I

1. Company/Product Number 524-445	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Rascal Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated <u>29 Dec. 2000</u>
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Print Plate No. 21151Z3-1/53

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Marsha Gray		Title Product Registration Manager	
		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			2. Data Application Received (Stamped)  2/2
2. Signature 		3. Title Manager, Registrations	
4. Typed Name Stephen J. Wratten, Ph.D.		5. Date February 2, 2002	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only

218

2115173-1/53

12/29/02  
**Rascal**<sup>®</sup>  
**HERBICIDE**

**Complete Directions for Use**

EPA Reg. No. 524-445

AVOID CONTACT WITH FOLIAGE, GREEN  
STEMS, EXPOSED NON-WOODY ROOTS OR  
FRUIT OF CROPS, DESIRABLE PLANTS AND  
TREES, SINCE SEVERE INJURY OR DESTRUC-  
TION MAY RESULT.

2002-1

Read the entire label before using this product.

Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

#### LIMIT OF WARRANTY AND LIABILITY

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company:

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement.

220



	4
LIMIT OF WARRANTY AND LIABILITY .....	2, 3
PRECAUTIONARY STATEMENTS .....	5, 6
ENVIRONMENTAL HAZARDS .....	6
INGREDIENTS .....	7
DIRECTIONS FOR USE .....	8
STORAGE AND DISPOSAL .....	9
GENERAL INFORMATION .....	9 thru 11
MIXING, ADDITIVES & APPLICATION INSTRUCTIONS .....	11 thru 14
APPLICATION EQUIPMENT .....	14 thru 24
WEEDS CONTROLLED .....	25
ANNUAL WEEDS .....	25 thru 33
PERENNIAL WEEDS .....	33 thru 46
WOODY BRUSH AND TREES .....	46 thru 52
NONCROP USES .....	52 thru 72
CROPPING SYSTEMS .....	72 thru 80
FALLOW AND REDUCED TILLAGE SYSTEMS .....	81 thru 86
CONSERVATION, MINIMUM AND NO-TILLAGE SYSTEMS .....	87 thru 91
TREE AND VINE CROPS .....	92 thru 102

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

Keep out of reach of children.

#### WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY.

HARMFUL IF SWALLOWED OR INHALED.

Do not get in eyes or on clothing.

Avoid breathing vapor or spray mist.

**FIRST AID: IF IN EYES**, immediately hold eyelids open and flush with plenty of water for at least 15 minutes. Get medical attention.

**IF INHALED**, remove individual to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

**IF SWALLOWED**, this product will cause gastrointestinal tract irritation. Immediately dilute by swallowing water or milk. Get medical attention. **NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.**

**DOMESTIC ANIMALS:** This product is considered to be relatively non-toxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

#### Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

#### Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

**DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.** This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

#### ACTIVE INGREDIENT:

*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt	41.0%
OTHER INGREDIENTS:	59.0%
	100.0%

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

No license granted under any non-U.S. patent(s).

222

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or tribe, consult the agency responsible for pesticide regulations.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, waterproof gloves, shoes plus socks, and protective eyewear.

### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

For more product information, call toll free, 1-800-332-3111.

### Storage and Disposal

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Keep container closed to prevent spills and contamination.

See container label for STORAGE AND DISPOSAL instructions.

### GENERAL INFORMATION

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

This product, a water soluble liquid, mixes readily with water to be applied as a foliar spray for the control or destruction of most herbaceous plants. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water in accordance with label instructions.

This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

223

Unless otherwise specified on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "WEEDS CONTROLLED" section of this label. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow. For this reason, best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the recommended range when (1) weed growth is heavy or dense, or (2) weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the chemical off the foliage and a repeat treatment may be required.

This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

### **MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS**

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. DO NOT APPLY WHEN WIND OR OTHER CONDITIONS FAVOR DRIFT. HAND-GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

#### **MIXING**

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product (see the "DIRECTIONS FOR USE" and "WEEDS CONTROLLED" sections of this label) near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

#### **TANK MIXTURES**

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.

224

2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
6. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
7. Where nonionic surfactant is recommended, add this to the spray tank before completing the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid followed by surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat fan nozzles.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water.

## ADDITIVES

### SURFACTANTS

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

### AMMONIUM SULFATE

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, and this product plus 2,4-D, Banvel™ or residual herbicide tank mixtures on annual and perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. Low-quality ammonium sulfate may contain material that will not readily dissolve, which could result in nozzle tip plugging. To determine quality, perform a jar test by adding 1/3 cup of ammonium sulfate to 1 gallon of water and agitate for 1 minute. If undissolved sediment is observed, predissolve the ammonium sulfate in water and filter prior to addition to the spray tank. If ammonium sulfate is added directly to the spray tank, add slowly with agitation. Adding too quickly may clog outlet line. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides or surfactant. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** The use of ammonium sulfate as an additive does not preclude the need for additional surfactant. Do not use herbicide rates lower than recommended in this label.

225

## COLORANTS AND DYES

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

## APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

Aerial—Fixed Wing and Helicopter

### Broadcast Spray

**Controlled Droplet Applicator (CDA)**—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

**Hand-Held and High-Volume Spray Equipment**—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective equipment**—Recirculating sprayers, shielded sprayers and wiper applicators.

See the appropriate part of this section for specific instructions and rates of application.

**SPRAY DRIFT MANAGEMENT: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.**

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

## AERIAL EQUIPMENT

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. See the "WEEDS CONTROLLED" section of this label for specific rates. Unless otherwise specified, do not exceed 1 quart per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for recommended volumes and application rates. **FOR AERIAL APPLICATION IN CALIFORNIA OR ARKANSAS, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.**

### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

226

### Importance of droplet size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

### Controlling droplet size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length:** For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

- **Application Height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

### Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the

227

morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### **Sensitive areas**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application. To avoid streaked, uneven or over-tapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

This product plus Oust<sup>TM</sup>, Banvel or 2,4-D tank mixtures may not be applied by air in California.

### **BROADCAST EQUIPMENT**

For control of annual or perennial weeds listed on this label using broadcast equipment—Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified on this label. See the "WEEDS CONTROLLED" section of this label for specific rates. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzle to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

### **CONTROLLED DROPLET APPLICATION (CDA)**

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of labeled annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 quart per acre). For the control of labeled perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

228



## HAND-HELD and HIGH-VOLUME EQUIPMENT

Use coarse sprays only.

Mix this product in clean water and apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff.

For control of annual weeds listed on this label, apply a 0.5 percent solution of this product plus nonionic surfactant to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. Allow three or more days before tillage or mowing.

For annual weeds over 6 inches tall, or when not using additional surfactant, or unless otherwise specified, use a 1 percent solution. For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods which result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Spray Solution

Desired Volume	Amount of Rascal					
	1/2%	1%	1 1/2%	2%	5%	10%
1 Gal	2 1/2 oz	1 1/3 oz	2 oz	2 2/3 oz	6 1/2 oz	13 oz
25 Gal	1 pt	1 qt	1 1/2 qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1 1/2 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

## SELECTIVE EQUIPMENT

This product may be applied through a recirculating spray system, a shielded applicator, or a wiper applicator after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically recommended in cropping systems.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

A shielded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.

A wiper applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

### AVOID CONTACT WITH DESIRABLE VEGETATION.

Contact of the herbicide solution with the desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

229

### SHIELDED APPLICATORS

When applied as directed under conditions described for shielded applicators, this product will control those weeds listed in the "WEEDS CONTROLLED" section of this label.

Use the following equation to convert from a broadcast rate per acre to a band rate per acre.

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Herbicide Broadcast RATE per acre} = \text{Herbicide Band RATE per acre}$$

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast VOLUME of solution per acre} = \text{Band VOLUME of solution per acre}$$

Use nozzles that provide uniform coverage within the treated area. Keep shields on shielded sprayers adjusted to protect desirable vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT WITH DESIRABLE VEGETATION.**

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

### WIPER APPLICATORS

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators**—Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this "WIPER APPLICATORS" section.

**For Porous-Plastic Applicators**—Solutions ranging from 33 to 100 percent of this product in water may be used in porous-plastic wiper applicators.

When applied as recommended under the conditions described for "WIPER APPLICATORS", this product **CONTROLS** the following weeds:

#### ANNUAL GRASSES

Corn	Rye, common
<i>Zea mays</i>	<i>Secale cereale</i>
Panicum, Texas	Shattercane
<i>Panicum texanum</i>	<i>Sorghum bicolor</i>

#### ANNUAL BROADLEAVES

Sicklepod	Starbur, bristly
<i>Cassia obtusifolia</i>	<i>Acanthospermum hispidum</i>
Spanishneedles	
<i>Bidens bipinnata</i>	

230

When applied as recommended under the conditions described for "WIPER APPLICATORS", this product SUPPRESSES the following weeds:

#### **ANNUAL BROADLEAVES**

Beggarweed, Florida  
*Desmodium illinoense*

Dogfennel  
*Eupatorium capilliflorum*

Pigweed, redroot  
*Amaranthus retroflexus*

Ragweed, common  
*Ambrosia artemisiifolia*

Ragweed, giant  
*Ambrosia trifida*

Sunflower  
*Helianthus annuus*

Thistle, musk  
*Carduus nutans*

Velvetleaf  
*Abutilon theophrasti*

#### **PERENNIAL GRASSES**

Bermudagrass  
*Cynodon dactylon*

Guineagrass  
*Panicum maximum*

Johnsongrass  
*Sorghum halepense*

Smutgrass  
*Sporobolus poiretii*

Vaseygrass  
*Paspalum urvillei*

#### **PERENNIAL BROADLEAVES**

Dogbane, hemp  
*Apocynum cannabinum*

Milkweed  
*Asclepias syriaca*

Nightshade, silverleaf  
*Solanum elaeagnifolium*

Thistle, Canada  
*Cirsium arvense*

### **WEEDS CONTROLLED**

This herbicide controls many annual and perennial grasses and broadleaf weeds.

#### **ANNUAL WEEDS**

- Apply to actively growing grass and broadleaf weeds.
- Allow at least 3 days after treatment before tillage.
- For maximum agronomic benefit, apply when weeds are 6 inches or less in height.
- To prevent seed production, applications should be made prior to seedhead formation.
- This product does not provide residual control; therefore, delay application until maximum weed emergence. Repeat treatments may be necessary to control later germinating weeds.

#### **LOW-VOLUME BROADCAST APPLICATION (LOW-RATE TECHNOLOGY)**

When applied as directed under the conditions described, this product will control the weeds listed below when:

1. Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are recommended. (See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional application information.)
2. A nonionic surfactant is added at 0.5 to 1 percent by total spray volume. Use 0.5 percent surfactant concentration when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration for those surfactants containing less than 70 percent active ingredient.

231

## NOTE

- The addition of 2 percent dry ammonium sulfate by weight or 17 pounds per 100 gallons of water may increase the performance of this product on annual weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label.
- Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.
- For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.
- Refer to the "TANK MIXTURES" portion of this section for control of additional broadleaf weeds.

WEED SPECIES	MAXIMUM HEIGHT/LENGTH	RATE PER ACRE* (Fluid Ounces)
Foxtail <i>Setaria spp.</i>	12"	8 oz.
Barnyardgrass <i>Echinochloa crus-galli</i>	6" (0 to 4" 4 to 6")	12 oz. 16 oz. <sup>1)</sup> 24 oz. <sup>1)</sup>
Bluegrass, annual <i>Poa annua</i>		
Brome, downy** <i>Bromus tectorum</i>		
Mustard, blue <i>Chorispora tenella</i>		
Mustard, tansy <i>Descurainia pinnata</i>		
Mustard, tumble <i>Sisymbrium altissimum</i>		
Mustard, wild <i>Sinapis arvensis</i>		
Spurry, umbrella <i>Holosteum umbellatum</i>		
Barley <i>Hordeum vulgare</i>	12"	
Rye <i>Secale cereale</i>		
Sandbur, field <i>Cenchrus spp.</i>		
Shattercane <i>Sorghum bicolor</i>		
Stinkgrass <i>Eragrostis cilianensis</i>		
Wheat <i>Triticum aestivum</i>	18"	
Morningglory <i>Ipomoea spp.</i>	2"	16 oz.
Sicklepod <i>Cassia obtusifolia</i>		
Bluegrass, bulbous <i>Poa bulbosa</i>	6"	
Cheat <i>Bromus secalinus</i>		
Chickweed, common <i>Stellaria media</i>		

232

WEED SPECIES	MAXIMUM HEIGHT/LENGTH	RATE PER ACRE* (Fluid Ounces)
Chickweed, mouseear <i>Cerastium vulgatum</i>	6"	16 oz.
Corn <i>Zea mays</i>		
Goatgrass, jointed <i>Aegilops cylindrica</i>		
Groundsel, common <i>Senecio vulgaris</i>		
Henbit <i>Lamium amplexicaule</i>		
Horseweed/Marestail <i>Conyza canadensis</i>		
Lambsquarters, common <i>Chenopodium album</i>		
Pennycress, field <i>Thlaspi arvense</i>		
Rocket, London <i>Sisymbrium irio</i>		
Ryegrass, Italian <i>Lolium multiflorum</i>		
Shepherd's-purse <i>Capsella bursa-pastoris</i>		
Spurge, annual <i>Euphorbia spp.</i>		
Buttercup <i>Ranunculus spp.</i>		
Cocklebur <i>Xanthium strumarium</i>	12"	
Crabgrass <i>Digitaria spp.</i>		
Dwarf dandelion <i>Rigida cespitosa</i>		
Falseflax, smallseed <i>Camelina microcarpa</i>		
Foxtail, Carolina <i>Alopecurus carolinianus</i>		
Johnsongrass, seedling <i>Sorghum halepense</i>		
Oats, wild <i>Avena fatua</i>		
Panicum, fall <i>Panicum dichotomiflorum</i>		
Panicum, Texas <i>Panicum texanum</i>		
Pigweed, redroot <i>Amaranthus retroflexus</i>		
Pigweed, smooth <i>Amaranthus hybridus</i>		
Witchgrass <i>Panicum capillare</i>		
Sicklepod <i>Cassia obtusifolia</i>	3 to 4"	24 oz.
Signalgrass, broadleaf <i>Brachiaria platyphylla</i>	4"	

WEED SPECIES	MAXIMUM HEIGHT/LENGTH	RATE PER ACRE* (Fluid Ounces)
Horseweed/Marestail <i>Conyza canadensis</i>	7 to 12"	24oz.
Lambsquarters, common <i>Chenopodium album</i>		
Spurge, annual <i>Euphorbia</i> spp.		
Rice, red <i>Oryza sativa</i>	4"	32 oz.
Teaweed <i>Sida spinosa</i>		
Sprangletop <i>Leptochloa</i> spp.	6"	
Geranium, Carolina <i>Geranium carolinianum</i>	12"	
Goosegrass <i>Eleusine indica</i>		
Primrose, cutleaf evening <i>Oenothera laciniate</i>		
Pusley, Florida <i>Richardia scabra</i>		
Sicklepod <i>Cassia obtusifolia</i>	5 to 12"	
Spanishneedles <i>Bidens bipinnata</i>		
Filaree <i>Erodium</i> spp.	12"	48 oz.
Sprangletop <i>Leptochloa</i> spp.		

<sup>1</sup>Use these rates to control barnyardgrass in Alabama, Arkansas, Mississippi, Missouri, Louisiana and Texas for preplant treatments.

\* For those rates less than 32 fluid ounces per acre, this product at rates up to 32 fluid ounces per acre may be used where heavy weed densities exist.

\*\* For control in no-till systems, use 16 fluid ounces per acre.

#### TANK MIXTURES

RASCAL Herbicide plus BANVEL  
plus NONIONIC SURFACTANT

RASCAL Herbicide plus 2,4-D  
plus NONIONIC SURFACTANT

DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

These tank mixtures are recommended for use in fallow and reduced tillage areas only. Follow use directions as given in the "LOW-VOLUME BROADCAST APPLICATION" section.

This product plus Banvel or 2,4-D will control the annual grasses and broadleaf weeds listed for this product alone at the indicated heights (except 8 fluid ounces per acre applications), plus the following broadleaf weeds. For those weeds previously listed at 8 fluid ounces of this product alone per acre, use 12 fluid ounces in these tank mixtures.

**NOTE:** Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting. The addition of Banvel in a mixture with this product may provide short-term residual control of selected weed species.

Apply 12 to 16 fluid ounces of this product plus 0.25 pound a.i. of Banvel or 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control dense populations

234

of the following annual broadleaf weeds when less than the height indicated:

Cocklebur (12") <i>Xanthium strumarium</i>	Morningglory (6") <i>Ipomoea spp.</i>
Kochia* (6") <i>Kochia scoparia</i>	Pigweed, redroot (12") <i>Amaranthus retroflexus</i>
Lambsquarters (12") <i>Chenopodium album</i>	Pigweed, smooth (12") <i>Amaranthus hybridus</i>
Lettuce, prickly (6") <i>Lactuca scariola</i>	Thistle, Russian (12") <i>Salsola kali</i>
Marestail/Horseweed (6") <i>Conyza canadensis</i>	

\* Controlled with Banvel tank mixture only.

Apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control the following annual broadleaf weeds when less than 6 inches in height.

Ragweed, common <i>Ambrosia artemisiifolia</i>	Smartweed, Pennsylvania <i>Polygonum pensylvanicum</i>
Ragweed, giant <i>Ambrosia trifida</i>	Velvetleaf <i>Abutilon theophrasti</i>

### HIGH-VOLUME BROADCAST APPLICATIONS

When applied as directed under the conditions described, this product will control the weeds listed below when water carrier volumes are 10 to 40 gallons per acre for ground applications.

Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall. If weeds have been mowed, grazed or cut, allow adequate time for new growth to reach recommended stages prior to

treatment. These rates will also provide control of weeds listed in the "LOW-VOLUME BROADCAST APPLICATION" section.

Balsamapple* <i>Momordica charantia</i>	Panicum <i>Panicum spp.</i>
Bassia, fivehook <i>Bassia hyssopifolia</i>	Ragweed, common <i>Ambrosia artemisiifolia</i>
Brome <i>Bromus spp.</i>	Ragweed, giant <i>Ambrosia trifida</i>
Fiddleneck <i>Amsinckia spp.</i>	Smartweed, Pennsylvania <i>Polygonum pensylvanicum</i>
Fleabane, hairy <i>Conyza bonariensis</i>	Sowthistle, annual <i>Sonchus oleraceus</i>
Fleabane <i>Erigeron spp.</i>	Sunflower <i>Helianthus annuus</i>
Kochia <i>Kochia scoparia</i>	Thistle, Russian <i>Salsola kali</i>
Lettuce, prickly <i>Lactuca scariola</i>	Velvetleaf <i>Abutilon theophrasti</i>

\* Apply with hand-held equipment only.

### PERENNIAL WEEDS

Apply this product as follows to control or destroy most perennial weeds:

NOTE: If weeds have been mowed or killed, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

235

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product on perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label.

When applied as recommended under the conditions described, this product WILL CONTROL the following PERENNIAL WEEDS:

<b>Alfalfa</b> <i>Medicago sativa</i>	<b>Horsenettle</b> <i>Solanum carolinense</i>
<b>Alligatorweed*</b> <i>Alternanthera philoxeroides</i>	<b>Horseradish</b> <i>Armoracia rusticana</i>
<b>Anise (fennel)</b> <i>Foeniculum vulgare</i>	<b>Ice plant</b> <i>Mesembryanthemum crystallinum</i>
<b>Artichoke, Jerusalem</b> <i>Helianthus tuberosus</i>	<b>Johnsongrass</b> <i>Sorghum halepense</i>
<b>Bahiagrass</b> <i>Paspalum notatum</i>	<b>Kikuyugrass</b> <i>Pennisetum clandestinum</i>
<b>Bentgrass</b> <i>Agrostis spp.</i>	<b>Knapweed</b> <i>Centaurea repens</i>
<b>Bermudagrass</b> <i>Cynodon dactylon</i>	<b>Lantana</b> <i>Lantana camara</i>
<b>Bermudagrass, water (knolgrass)</b> <i>Paspalum distichum</i>	<b>Lespedeza</b> <i>Lespedeza spp.</i>
<b>Bindweed, field</b> <i>Convolvulus arvensis</i>	<b>Milkweed</b> <i>Asclepias spp.</i>
<b>Bluegrass, Kentucky</b> <i>Poa spp.</i>	<b>Muhly, wirestem</b> <i>Muhlenbergia frondosa</i>
<b>Blueweed, Texas</b> <i>Helianthus ciliaris</i>	<b>Mullein, common</b> <i>Verbascum thapsus</i>

<b>Brackenfern</b> <i>Pteridium aquilinum</i>	<b>Napiergrass</b> <i>Pennisetum purpureum</i>
<b>Bromegrass, smooth</b> <i>Bromus inermis</i>	<b>Nightshade, silverleaf</b> <i>Solanum elaeagnifolium</i>
<b>Bursage, woollyleaf</b> <i>Franseria tomentosa</i>	<b>Nutsedge; purple, yellow</b> <i>Cyperus rotundus</i> <i>Cyperus esculentus</i>
<b>Canarygrass, reed</b> <i>Phalaris arundinacea</i>	<b>Orchardgrass</b> <i>Dactylis glomerata</i>
<b>Cattail</b> <i>Typha spp.</i>	<b>Pampasgrass</b> <i>Cortaderia spp.</i>
<b>Clover, red</b> <i>Trifolium pratense</i>	<b>Paragrass</b> <i>Brachiaria mutica</i>
<b>Clover, white</b> <i>Trifolium repens</i>	<b>Phragmites*</b> <i>Phragmites spp.</i>
<b>Cogongrass</b> <i>Imperata cylindrica</i>	<b>Poison hemlock</b> <i>Conium maculatum</i>
<b>Dallisgrass</b> <i>Paspalum dilatatum</i>	<b>Quackgrass</b> <i>Agropyron repens</i>
<b>Dandelion</b> <i>Taraxacum officinale</i>	<b>Redvine*</b> <i>Brunnichia ovata</i>
<b>Dock, curly</b> <i>Rumex crispus</i>	<b>Reed, giant</b> <i>Arundo donax</i>
<b>Dogbane, hemp</b> <i>Apocynum cannabinum</i>	<b>Ryegrass, perennial</b> <i>Lolium perenne</i>
<b>Fescues</b> <i>Festuca spp.</i>	<b>Smartweed, swamp</b> <i>Polygonum coccineum</i>
<b>Fescue, tall</b> <i>Festuca arundinacea</i>	<b>Spurge, leafy*</b> <i>Euphorbia esula</i>
<b>Guineagrass</b> <i>Panicum maximum</i>	



Starthistle, yellow <i>Centaurea solstitialis</i>	Torpedograss* <i>Panicum repens</i>
Sweet potato, wild* <i>Ipomoea pandurata</i>	Trumpet creeper* <i>Campsis radicans</i>
Thistle, Canada <i>Cirsium arvense</i>	Vaseygrass <i>Paspalum urvillei</i>
Thistle, artichoke <i>Cynara cardunculus</i>	Velvetgrass <i>Holcus spp.</i>
Timothy <i>Phleum pratense</i>	Wheatgrass, western <i>Agropyron smithii</i>

\* Partial Control

This product is not registered in California for use on water bermudagrass.

See "DIRECTIONS FOR USE" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for labeled uses and specific application instructions.

**Alfalfa**—Apply 1 quart of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make application after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

**Alligatorweed**—Apply 4 quarts of this product per acre or apply a 1.5 percent solution with hand-held equipment to provide partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain such control.

**Anise (fennel) / Poison hemlock**—Apply a 1 to 2 percent solution of this product as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Repeat applications may be needed in succeeding years to control plants arising from seeds.

**Bentgrass**—For suppression in grass seed production areas. For ground applications only, apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should be actively growing and have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results. Failure to use tillage after treatment may result in unacceptable control.

**Bermudagrass**—For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control. Allow 7 or more days after application before tillage.

**Bermudagrass, water (knotgrass)**—Apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Apply when water bermudagrass is actively growing and 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

**Fall applications only**—Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is actively growing and 12 to 18 inches in length. Allow 7 or more days before tillage.

**Bindweed, field**—For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are actively growing and are at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Banvel in 10 to 20 gallons of water per acre. At these rates, apply using ground application only.

The following tank mixtures with 2,4-D may be applied using aerial application equipment (except in California) in fallow and reduced tillage systems only.

For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions.

For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth. Allow 3 or more days after application before tillage.

**Bluegrass, Kentucky / Bromegrass, smooth / Orchardgrass**—Apply 2 quarts of this product in 10 to 40 gallons of water per acre when the grasses are actively growing and most plants have reached boot-to-early seedhead stage of development. For partial control in

pasture or hay crop renovation, apply 1 to 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Allow 7 or more days after application before tillage.

**Orchardgrass (sods going to no-till corn)**—Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

**Blueweed, Texas**—Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when weed is actively growing and is at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

**Brackenfern**—Apply 3 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

**Bursage, woollyleaf**—For control, apply 2 quarts of this product plus 1 pint of Banvel per acre. For partial control, apply 1 quart of this product plus 1 pint of Banvel per acre. Add 0.5 to 1 percent nonionic surfactant by total spray volume and apply in 3 to 20 gallons of water per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

**Canarygrass, reed / Timothy / Wheatgrass, western**—Apply 2 to 3 quarts of this product per acre. For best results, apply to actively

238

growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage.

**Cogongrass**—Apply 3 to 5 quarts of this product plus 0.5 to 1 percent nonionic surfactant in 10 to 40 gallons of water per acre. Apply when Cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

**Dandelion / Dock, curly**—Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

**Dogbane, hemp**—Apply 4 quarts of this product per acre. Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

**Fescue, tall**—Apply 3 quarts of this product in 10 to 40 gallons of water per acre to actively growing plants when most have reached boot-to-early seedhead stage of development.

Fall applications only—Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to fescue in the fall when actively growing and

plants have 6 to 12 inches of new growth. Allow 7 or more days after application before tillage. A sequential application of 1 pint per acre of this product plus nonionic surfactant will improve long-term control and control seedlings germinating after fall treatments or the following spring.

**Guineagrass**—Apply 3 quarts of this product per acre or use a 1 percent solution with hand-held equipment. Apply to actively growing guineagrass when most has reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. Allow 7 or more days after application before tillage.

**Johnsongrass / Ryegrass, perennial**—Apply 1 to 3 quarts of this product per acre. In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not performed, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.

For burndown of Johnsongrass, apply 1 pint per acre plus 0.5 to 1 percent nonionic surfactant in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression)—Apply a 1 percent solution of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

**Kikuyugrass**—Apply 2 to 3 quarts of this product per acre. Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

**Knapweed / Horseradish**—Apply 4 quarts of this product per acre. Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.

**Lantana**—Apply this product as a 1 to 1.25 percent solution using hand-held equipment only. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth. Allow 7 or more days after application before tillage.

**Milkweed, common**—Apply 3 quarts of this product per acre. Apply when actively growing and most of the milkweed has reached the late bud to flower stage of growth. Following small grain harvest or mowing, allow milkweed to regrow to a mature stage prior to treatment. Allow 7 or more days after application before tillage.

**Muhly, wirestem**—Apply 1 to 2 quarts of this product per acre. Use 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height and actively growing. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage. This product will not provide residual control of wirestem muhly from seeds which germinate after application of this product. Do not tank mix with residual herbicides when using the 1 quart per acre rate.

**Nightshade, silverleaf**—For control, apply 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth.

**Nutsedge, purple, yellow**—Apply 3 quarts of this product per acre as a broadcast spray, or apply a 1 to 2 percent solution from hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications of 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre will provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For suppression to partial control of existing plants, apply 1 pint to 2 quarts of this product per acre, plus 0.5 to 1 percent nonionic surfactant in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants. Wait 7 days after treatment before tillage or mowing.

**Pampasgrass / Ice plant**—Apply this product as a 1.5 to 2 percent solution using hand-held equipment. Apply to plants that are actively growing. Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

**Phragmites**—For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 5 quarts per acre as a broadcast spray or apply a 2 percent solution from hand-held equipment. In other areas of the U.S., apply 3 quarts per acre as a broadcast spray or apply a 1 percent solution from hand-held equipment for partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent

good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

**Quackgrass**—In Annual Cropping Systems, or in Pastures and Sods Followed by Deep Tillage: Apply 1 to 2 quarts of this product per acre. For the 1 quart rate, apply 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. For the 2 quart rate, apply in 10 to 40 gallons of water per acre. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height and actively growing. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, for best results use a moldboard plow.

**Quackgrass**—Pasture or Sod or Other Noncrop Areas Where Deep Tillage is Not Planned Following Application: Apply 2 to 3 quarts in 10 to 40 gallons of water per acre. Spray when the quackgrass is greater than 8 inches tall and actively growing. Do not till between harvest and fall application or in fall or spring prior to spring application. Allow 3 or more days after application before tillage.

**Redvine**—For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre plus 0.5 to 1 percent nonionic surfactant by total volume. Apply in late September or early October to actively growing plants, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

**Reed, giant**—For control of giant reed, apply a 2 percent solution of this product when plants are actively growing. Best results are obtained when applications are made in late summer to fall.

**Smartweed, swamp**—Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound active ingredient of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

**Spurge, leafy**—For suppression, apply 16 fluid ounces of this product plus 0.5 pound active ingredient 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall. Allow 7 or more days after application before tillage.

**Starthistle, yellow**—Best results are obtained when applications are made during periods of active growth, including the rosette, bolting and early flower stages. For spray-to-wet applications, apply this product as a 2 percent solution. For broadcast applications, apply 2 quarts per acre in 10 to 40 gallons per acre of water carrier.

**Sweet Potato, wild / Thistle, artichoke**—Apply this product as a 2 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications may be required. Allow the plant to reach the recommended stage of growth before retreatment. Allow 7 or more days before tillage.

**Thistle, Canada**—Apply 2 to 3 quarts of this product per acre. Apply to actively growing thistles when most are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression of Canada thistle, apply 1 quart per acre of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-D per acre.

241

plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

**Torpedograss**—Apply 4 to 5 quarts of this product per acre to provide partial control of torpedograss. Apply to actively growing torpedograss when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost. Allow 7 or more days after application before tillage.

**Trumpet creeper**—For control, apply 2 quarts of this product per acre in 5 to 10 gallons of water per acre. Apply to actively growing plants in late September or October, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

**Other perennials listed on this label**—Apply 3 to 5 quarts of this product per acre. Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.

### WOODY BRUSH AND TREES

When applied as recommended under the conditions described, this product CONTROLS or PARTIALLY CONTROLS the following woody brush, plants and trees:

Alder <i>Alnus</i> spp.	Cherry: Bitter <i>Prunus emarginata</i>
Ash* <i>Fraxinus</i> spp.	Black <i>Prunus serotina</i>
Aspen, quaking <i>Populus tremuloides</i>	Pin <i>Prunus pensylvanica</i>
Bearmat (Bearclover) <i>Chamaebatia foliolosa</i>	Coyote brush <i>Baccharis consanguinea</i>
Beech <i>Fagus grandifolia</i>	Creepers, Virginia* <i>Parthenocissus quinquefolia</i>
Birch <i>Betula</i> spp.	Dewberry <i>Rubus trivialis</i>
Blackberry <i>Rubus</i> spp.	Dogwood* <i>Cornus</i> spp.
Blackgum <i>Nyssa</i> spp.	Elderberry <i>Sambucus</i> spp.
Bracken <i>Pteridium</i> spp.	Elm* <i>Ulmus</i> spp.
Broom: French <i>Cytisus monspessulanus</i>	Eucalyptus <i>Eucalyptus</i> spp.
Scotch <i>Cytisus scoparius</i>	Garage <i>Ulex europaeus</i>
Buckwheat, California* <i>Eriogonum fasciculatum</i>	Hasardia* <i>Haplopappus squamosus</i>
Cascara* <i>Rhamnus purshiana</i>	Hawthorn <i>Crataegus</i> spp.
Catsclaw* <i>Acacia greggii</i>	Hazel <i>Corylus</i> spp.
Ceanothus* <i>Ceanothus</i> spp.	Hickory* <i>Carya</i> spp.
Chamise <i>Adenostoma fasciculatum</i>	Holly, Florida/ Brazilian Peppertree* <i>Schinus terebinthifolius</i>

Honeysuckle <i>Lonicera</i> spp.	Raspberry <i>Rubus</i> spp.
Hornbeam, American* <i>Carpinus caroliniana</i>	Redbud, eastern <i>Cercis canadensis</i>
Kudzu <i>Pueraria lobata</i>	Rose, multiflora <i>Rosa multiflora</i>
Locust, black* <i>Robinia pseudoacacia</i>	Russian-olive <i>Elaeagnus angustifolia</i>
Madrone <i>Arbutus menziesii</i>	Sage, black, white <i>Salvia</i> spp.
Manzanita <i>Arctostaphylos</i> spp.	Sagebrush, California <i>Artemisia californica</i>
Maple: Red** <i>Acer rubrum</i>	Salmonberry <i>Rubus spectabilis</i>
Sugar <i>Acer saccharum</i>	Salt cedar <i>Tamarix</i> spp.
Vine* <i>Acer circinatum</i>	Sassafras <i>Sassafras albidum</i>
Monkey Flower* <i>Mimulus guttatus</i>	Sourwood <i>Oxydendrum arboreum</i>
Oak: Black* <i>Quercus velutina</i>	Sumac: Poison* <i>Rhus vernix</i>
Northern Pin <i>Quercus palustris</i>	Smooth* <i>Rhus glabra</i>
Post <i>Quercus stellata</i>	Winged* <i>Rhus copallina</i>
Red <i>Quercus rubra</i>	Sweetgum <i>Liquidambar styraciflua</i>
Southern Red <i>Quercus falcata</i>	Swordfern* <i>Polystichum munitum</i>
White* <i>Quercus alba</i>	Tallowtree, Chinese <i>Sapium sebiferum</i>
Persimmon* <i>Diospyros</i> spp.	Tan Oak <i>Lithocarpus densiflorus</i>
Pine <i>Pinus</i> spp.	Thimbleberry <i>Rubus parviflorus</i>
Poison Ivy <i>Rhus radicans</i>	Tobacco, tree* <i>Nicotiana glauca</i>
Poison Oak <i>Rhus toxicodendron</i>	Trumpet creeper <i>Campsis radicans</i>
Poplar, yellow* <i>Linodendron tulipifera</i>	Waxmyrtle, southern* <i>Myrica cerifera</i>
	Willow <i>Salix</i> spp.

\*Partial control

\*\*See below for control or partial control instructions.

NOTE: If brush has been mowed or killed or trees have been cut, do not treat until regrowth has reached the recommended stages of growth.

Apply this product when plants are actively growing and, unless otherwise directed, after full leaf expansion. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when application is made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before lillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

See "DIRECTIONS FOR USE" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for labeled uses and specific application instructions.

Apply this product as follows to control or partially control the following woody brush and trees.

**Alder / Dewberry / Honeysuckle / Post Oak / Raspberry**—For control, apply 3 to 4 quarts per acre of this product as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

**Aspen, quaking / Cherry: bitter, black, pin / Hawthorn / Oak, southern red / Sweetgum / Trumpet creeper**—For control, apply 2 to 3 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

**Birch / Elderberry / Hazel / Salmonberry / Thimbleberry**—For control, apply 2 quarts per acre of this product as a broadcast spray or as a 1 percent solution with hand-held equipment.

**Blackberry**—For control, apply 3 to 4 quarts per acre of this product as a broadcast spray, or 1 to 1.5 percent solution with hand-held equipment. Make application after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4 percent solution of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume with hand-held equipment. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.

**Broom: French, Scotch**—For control, apply a 1.5 to 2 percent solution with hand-held equipment.

**Buckwheat, California / Hasardia / Monkey Flower / Tobacco, tree**—For partial control of these species, apply a 1 to 2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Catsclaw**—For partial control, apply as a 1 to 1.5 percent solution with hand-held equipment.

**Coyote Brush**—For control, apply a 1.5 to 2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Eucalyptus**—For control of eucalyptus resprouts, apply a 2 percent solution of this product with hand-held equipment when resprouts are 6 to 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought-stressed plants.

**Kudzu**—For control, apply 4 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.

**Madrone resprouts**—For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

**Maple, red**—For control, apply as a 1 to 1.5 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre as a broadcast spray.

**Maple, sugar / Oak, northern pin / Oak, red**—For control, apply as a 1 to 1.5 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Poison Ivy / Poison Oak**—For control, apply 4 to 5 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications may be required to main-

244



tain control. Fall treatments must be applied before leaves lose green color.

**Rose, multiflora**—For control, apply 2 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

**Sage, black / Sagebrush, California / Chamise / Yellowtree, Chinese**—For control of these species, apply a 1 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Tan oak resprouts**—For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with fall applications.

**Willow**—For control, apply 3 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment.

**Other Woody Brush and Trees listed on this label**—For partial control, apply 2 to 5 quarts of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment.

### NONCROP USES

See "GENERAL INFORMATION" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for essential product performance information and the following "NONCROP" sections for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE TURFGRASSES, TREES, SHRUBS OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

This product does not provide residual weed control. For subsequent weed control, follow a label-approved herbicide program.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

### INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS

When applied as directed for "NONCROP USES" under conditions described, this product controls annual and perennial weeds listed on this label growing in areas such as airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, parking areas, parks, petroleum tank farms and pumping installations, pipelines, railroads, roadsides, schools, storage areas, other public areas and similar industrial or noncrop areas.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any noncrop site specified on this label. See the Selective Equipment part of "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

245

## TANK MIXTURES FOR INDUSTRIAL SITES

### RASCAL Herbicide plus OUST™

Use on industrial sites including airports, industrial plants, lumber-yards, petroleum tank farms, pumping stations, railroads, roadsides, storage areas or other similar sites where bare ground is desired.

When applied as directed for "NONCROP USES" under the conditions described, this product plus Oust provides control of annual weeds listed in the "WEEDS CONTROLLED" section of the label for this product and Oust, and control or partial control of the perennial weeds listed below.

Apply 1 to 2 quarts of this product with 2 to 4 ounces of Oust in 10 to 40 gallons of spray solution per acre as a broadcast spray to actively growing weeds.

This mixture may be applied by aerial equipment in site prep operations. When applied by air, use the recommended rates in 5 to 15 gallons of spray solution per acre.

This product plus Oust tank mixtures may not be applied by air in California.

For control of annual weeds, use the lower rates of these products.

For control of the listed perennial weeds, use the higher rates of both products. For partial control, use the lower rates.

Bahiagrass	Johnsongrass**
<i>Paspalum notatum</i>	<i>Sorghum halepense</i>
Bermudagrass*	Poorjoe**
<i>Cynodon dactylon</i>	<i>Diodia teres</i>
Broomsedge	Quackgrass
<i>Andropogon virginicus</i>	<i>Agropyron repens</i>

Dock, curly	Trumpet creeper*
<i>Rumex crispus</i>	<i>Campsis radicans</i>
Dogfennel	Vaseygrass
<i>Eupatorium capilliflorum</i>	<i>Paspalum urvillei</i>
Fescue, tall	Vervain, blue
<i>Festuca arundinacea</i>	<i>Verbena hastata</i>

\*Suppression at the higher rates only.

\*\*Control at the lower rates.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

## TANK MIXTURES NONCROP SITES

When applied as a tank mixture, this product provides control of the emerged annual weeds and partial control of the emerged perennial weeds listed in this label. When applied as a tank mixture, the following residual herbicides will provide preemergence control of the weeds listed in the individual product labels.

RASCAL® Herbicide plus DIURON

RASCAL Herbicide plus KROVAR™ I

RASCAL Herbicide plus KROVAR II

RASCAL Herbicide plus RONSTAR™ 50WP

RASCAL Herbicide plus SIMAZINE,  
PRINCEP CALIBER™ 90

RASCAL Herbicide plus SIMAZINE 4L

RASCAL Herbicide plus SIMAZINE 80W

**RASCAL Herbicide plus SURFLANT™ 75W****RASCAL Herbicide plus SURFLAN AS**

When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution. See the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label before preparing these tank mixtures.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

**CONTROL OF EMERGED WEEDS**

**NOTE:** For backpack sprayer and handgun applications, see the "HAND-HELD AND HIGH VOLUME EQUIPMENT" section for recommended rates.

**Annual Weeds**—Apply 1 quart per acre of this product in these tank mixtures when weeds are less than 6 inches tall and 1.5 quarts per acre when weeds are more than 6 inches tall.

**Perennial Weeds**—For partial control of perennial weeds using these tank mixtures, apply 2 to 5 quarts per acre of this product. Follow the recommendations in the "WEEDS CONTROLLED" section of this label for stage of growth and rate of application for specific perennial weeds.

**PREEMERGENCE WEED CONTROL**

For preemergence weed control, refer to the individual product labels for specific noncrop sites, rates, carrier volumes and precautionary statements.

Mix only the quantity of spray solution which can be used during the same day. Do not allow these tank mixtures to stand overnight as this may result in reduced weed control.

**FARMSTEAD WEED CONTROL**

When applied as directed for "NONCROP USES", under conditions described, this product controls undesirable vegetation listed on this label around farmstead building foundations, along and in fences, shelterbelts and for general nonselective farmstead weed control.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

**FARM DITCHES**

This product will suppress perennial grasses along farm ditches. Apply this product at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces per acre when treating tall (coarse) fescue, fine fescue, orchardgrass or quackgrass covers. For best suppression of these species, add ammonium sulfate at a rate of 1.7 pounds per 10 gallons of spray solution. Use 6 fluid ounces per acre without ammonium sulfate when treating Kentucky bluegrass.

Apply treatments in 10 to 20 gallons of spray solution per acre to actively growing perennial grass covers. For best spray distribution and coverage, use flat fan nozzles.

Add a nonionic surfactant at a rate of 0.5 percent of the spray solution.

Where broadleaf weed control or suppression is desired, tank mix this product with an appropriate, labeled broadleaf weed herbicide.

**CONSERVATION RESERVE PROGRAM  
(CRP ACRES)**

This product can be used to control undesirable vegetation when rotating out of CRP acres or to suppress competitive growth and seed production of undesirable vegetation in CRP acres.

For specific rates of application for various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

CRP applications may be made with wiper applicators or conventional spray equipment.

For selective applications with broadcast spray equipment, apply 12 to 16 ounces per acre of this product in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy. Some stunting of CRP perennial grasses will occur if applications are made when plants are not dormant.

### HABITAT MANAGEMENT

This product is recommended for the restoration and/or maintenance of native habitats and in wildlife management areas. Apply as recommended in the "NONCROP USES" section of this label.

**Habitat Restoration and Maintenance**—When applied as directed, exotic and other undesirable vegetation may be controlled in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broadspectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. For spot treatments, care should be exercised to keep spray off of desirable plants.

**Wildlife Food Plots**—This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after applying this product before tilling.

### ORNAMENTALS, TREE NURSERIES AND CHRISTMAS TREES

THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES.

**NOTE:** Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

When applied as instructed for the conditions described for "NON-CROP USES," this product controls undesirable vegetation listed on this label prior to planting, within and around greenhouses and shadehouses, and as a postdirected spray around established ornamentals and Christmas trees.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

**Site Preparation**—Following preplant applications of this product, any ornamental, nursery species or Christmas tree species may be planted. Precautions should be taken to protect nontarget plants during site preparation applications.

**Greenhouse / Shadehouse Use**—This product may be used to control weeds listed on this label which are growing in greenhouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

**Postdirected Spray**—Use as a postdirected spray around established woody ornamental species, nursery species or Christmas trees such as those listed below. Care must be exercised to avoid contact of spray, drift or mist with foliage of or green bark of established ornamental species.

208

Arbovitae <i>Thuja spp.</i>	Lilac <i>Syringa spp.</i>
Azalea <i>Rhododendron spp.</i>	Magnolia <i>Magnolia spp.</i>
Boxwood <i>Buxus spp.</i>	Maple <i>Acer spp.</i>
Crabapple <i>Malus spp.</i>	Oak <i>Quercus spp.</i>
Euonymus <i>Euonymus spp.</i>	Privet <i>Ligustrum spp.</i>
Fir <i>Abies spp.</i> <i>Pseudotsuga spp.</i>	Pine <i>Pinus spp.</i>
Jojoba <i>Simmondsia chinensis</i>	Spruce <i>Picea spp.</i>
Hollies <i>Ilex spp.</i>	Yew <i>Taxus spp.</i>

### CUT STUMP TREATMENTS

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouts with this product. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut vegetation close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly-cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL or SUPPRESS many types of woody brush and tree species, some of which are listed below:

Alder <i>Alnus spp.</i>	Saltcedar <i>Tamarisk spp.</i>
----------------------------	-----------------------------------

Eucalyptus <i>Eucalyptus spp.</i>	Sweetgum <i>Liquidambar styraciflua</i>
Madrone <i>Arbutus menziesii</i>	Tan Oak <i>Lithocarpus densiflorus</i>
Oak <i>Quercus spp.</i>	Willow <i>Salix spp.</i>
Reed, giant <i>Arundo donax</i>	

### INJECTION AND FRILL APPLICATIONS

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter (DBH). This is best achieved by applying a 50 to 100 percent concentration of this material either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as this, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, application should be made during periods of active growth and after full leaf expansion.

This treatment WILL CONTROL the following woody species:

Oak <i>Quercus spp.</i>	Sweetgum <i>Liquidambar styraciflua</i>
Poplar <i>Populus spp.</i>	Sycamore <i>Platanus occidentalis</i>

249

This treatment WILL SUPPRESS the following woody species:

<b>Black gum</b>	<b>Hickory</b>
<i>Nyssa sylvatica</i>	<i>Carya spp.</i>
<b>Dogwood</b>	<b>Maple, red</b>
<i>Cornus spp.</i>	<i>Acer rubrum</i>

### TURFGRASSES AND GRASSES FOR SEED PRODUCTION

#### ■ PREPLANT AND RENOVATION ■

When applied as directed for "NONCROP USES", under conditions described, this product controls most existing vegetation prior to the planting or renovation of either turfgrasses or grass seed production areas.

For specific rates of application and instructions for control of various annual and perennial weeds, and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

#### TURFGRASSES

Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth listed in the "WEEDS CONTROLLED" section of this label.

Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

#### GRASSES FOR SEED PRODUCTION

Apply this product to actively growing weeds at the stages of growth recommended in the "WEEDS CONTROLLED" section of this label prior to planting or renovation of turf or forage grass areas grown for seed production.

DO NOT feed or graze treated areas within 8 weeks after application.

#### ■ ANNUAL WEED CONTROL IN DORMANT BERMUDAGRASS AND BAHIAGRASS TURF ■

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Refer to the rate table for Rascal herbicide alone under the "RELEASE OF BERMUDAGRASS and BAHIAGRASS" section of this label for recommended rates and volumes on the species to be suppressed or controlled. Treat only when turf is dormant and prior to spring greenup. Spot treatments or broadcast applications of this product in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained turfgrass areas; i.e., golf courses, lawns, etc. DO NOT APPLY TANK MIXTURES of this product plus Oust in highly maintained turfgrass areas.

#### RELEASE OF BERMUDAGRASS OR BAHIAGRASS

**NOTE:** Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. Use tank mixtures of this product plus Oust only on railroads, highways, and utility plant sites.

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant

250

bermudagrass or bahiagrass. This product may be tank-mixed with Oust as recommended for residual control. Make applications to dormant bermudagrass or bahiagrass. Tank mixtures of this product plus Oust may delay greenup. To avoid delays in greenup and minimize injury, do not add more than 1 ounce per acre of Oust on bermudagrass or more than 0.5 ounce per acre on bahiagrass, or treat when these grasses are in a semi-dormant condition.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is in or beyond the 4- to 6-leaf stage.

#### WEEDS CONTROLLED

Rate recommendations for control or suppression of winter annuals and tall fescue are listed below:

Apply the recommended rates of this product alone or as a tank mixture in 10 to 25 gallons of water, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre.

For the best recommendation for the mixture of weeds within your geographic area, contact your Monsanto sales representative.

#### WEEDS CONTROLLED OR SUPPRESSED WITH RASCAL ALONE\*

NOTE: C = Control  
S = Suppression

WEED SPECIES	Rascal FLUID OZ/ACRE					
	8	12	16	24	32	64
Barley, little <i>Hordeum pusillum</i>	S	C	C	C	C	C
Bedstraw, catchweed <i>Galium aparine</i>	S	C	C	C	C	C
Bluegrass, annual <i>Poa annua</i>	S	C	C	C	C	C
Chervil <i>Chaerophyllum tainturieri</i>	S	C	C	C	C	C
Chickweed, common <i>Stellaria media</i>	S	C	C	C	C	C
Clover, crimson <i>Trifolium incarnatum</i>	-	S	S	C	C	C
Clover, large hop <i>Trifolium campestre</i>	-	S	S	C	C	C
Fescue, tall <i>Festuca arundinaceae</i>	-	-	-	-	S	S
Geranium, Carolina <i>Geranium carolinianum</i>	-	-	S	S	C	C
Henbit <i>Lamium amplexicaule</i>	-	S	C	C	C	C
Ryegrass Italian <i>Lolium multiflorum</i>	-	-	S	C	C	C
Speedwell, corn <i>Veronica arvensis</i>	S	C	C	C	C	C
Vetch, common <i>Vicia sativa</i>	-	-	S	C	C	C

\*These rates apply only to sites where an established competitive turf is present.

251

# WEEDS CONTROLLED OR SUPPRESSED WITH RASCAL PLUS OUST\*

NOTE: C = Control  
S = Suppression

WEED SPECIES	Rascal (FL. OZ/A) + OUST (OZ/A)	Rascal + Dust					
		8	12	12	16	16	12
		1/4	1/4	1/2	1/4	1/2	1
Barley, little <i>Hordeum pusillum</i>		C	C	C	C	C	C
Bedstraw, catchweed <i>Galium aparine</i>		C	C	C	C	C	C
Bluegrass, annual <i>Poa annua</i>		S	C	C	C	C	C
Chervil <i>Chaerophyllum tainturieri</i>		C	C	C	C	C	C
Chickweed, common <i>Stellaria media</i>		S	C	C	C	C	C
Clover, crimson <i>Trifolium incarnatum</i>		S	S	S	S	C	C
Clover, large hop <i>Trifolium campestre</i>		•	•	S	S	S	C
Fescue, tall <i>Festuca arundinaceae</i>		•	•	•	•	•	S
Geranium, Carolina <i>Geranium carolinianum</i>		•	S	S	C	C	C
Henbit <i>Lamium amplexicaule</i>		•	S	C	C	C	C
Ryegrass, Italian <i>Lolium multiflorum</i>		•	S	S	C	C	C
Speedwell, corn <i>Veronica arvensis</i>		S	C	C	C	C	C
Vetch, common <i>Vicia sativa</i>		C	C	C	C	C	C

\*These rates or mixtures of rates apply only to sites where an established competitive turf is present.

## ■ RELEASE OF ACTIVELY GROWING BERMUDAGRASS ■

When applied as directed, this product will aid in the release of bermudagrass by providing control of annual species listed in the "WEEDS CONTROLLED" section of this and the Oust label, and suppression or partial control of certain perennial weeds.

For control or suppression of those annual species listed on this label, use 1 to 3 pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation.

Use the higher rate of this product for partial control of the following perennial species. Use the lower rates for suppression of growth. For best results, see the "WEEDS CONTROLLED" section of this label for proper stage of growth.

Bahiagrass <i>Paspalum notatum</i>	Johnsongrass* <i>Sorghum halepense</i>
Bluestem, silver <i>Andropogon saccharoides</i>	Trumpet creeper** <i>Campsis radicans</i>
Fescue, tall <i>Festuca arundinacea</i>	Vaseygrass <i>Paspalum urvillei</i>

\*Control at the higher rates.

\*\*Suppression at higher rates only.

252



This product may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 2 pints per acre of this product with 1 to 2 ounces of Oust per acre.

Use the lower rates of both mixtures to control annual weeds below 6 inches in height (or runner length in annual vines) that are listed in the "WEEDS CONTROLLED" section of this booklet and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages.

Use the higher rates of this product to provide partial control of the following perennial weeds. Use the lower rates for suppression of growth.

Bahiagrass <i>Paspalum notatum</i>	Johnsongrass* <i>Sorghum halepense</i>
Bluestem, silver <i>Andropogon saccharoides</i>	Poorjoe** <i>Diodia teres</i>
Broomsedge <i>Andropogon virginicus</i>	Trumpet creeper* <i>Campsis radicans</i>
Dock, curly <i>Rumex crispus</i>	Yasaygrass <i>Paspalum urvillei</i>
Dogfennel <i>Eupatorium capilliflorum</i>	Vervain, blue <i>Verbena hastata</i>

Fescue, tall  
*Festuca arundinacea*

\*Suppression at higher rates only.

\*\*Control at the higher rates.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may result.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

### COOL SEASON TURF GROWTH REGULATION

When applied as directed, this product will suppress growth and seedhead development of listed turf species in industrial sites.

This product is recommended for management of coarse turf in road-sides or other industrial areas. Do not use on high-quality turf or other areas where some turf color changes cannot be tolerated. Slight turf discoloration may occur but turf will regreen and regrow under moist conditions as effects of this product wear off.

Apply 4 to 6 fluid ounces of this product per acre alone or in a recommended tank mixture. Spray volumes of 10 to 40 gallons per acre are recommended.

When using this product, mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution.

This product can be used for growth and seedhead suppression of TALL FESCUE and SMOOTH BROME.

For best results, apply this product in a recommended tank mixture to actively growing turfgrasses after greenup in the spring of the year. For suppression of seedheads, applications must be made before boot-to-seedhead stage of development. Applications made from seedhead emergence until maturity may result in turf discoloration or injury.

After mowing or removal of seedheads, this product in a recommended tank mixture may also be used to suppress the growth of certain turfgrasses. Allow turf to recover from stress caused by heat, drought or mowing before making applications. Applications made to turf under stress may increase the potential for discoloration or injury.

253

**ANNUAL GRASSES:** For growth suppression of some annual grasses such as annual ryegrass, wild barley and wild oats, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

### TANK MIXTURES

For the following tank mixtures, consult each product label for weeds controlled and the correct stage of application. Do not treat turf under stress.

**Tank mixtures plus 2,4-D Amine:** For additional weed control benefits, up to 1 pound a.i. per acre of 2,4-D amine may be added to the following tank mixtures. Consult the label for 2,4-D amine for weeds controlled.

### TALL FESCUE

#### Rascal Herbicide plus Telar™

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.5 ounce of Telar per acre.

This tank mixture can also be applied after mowing or removal of tall fescue seedheads for turf growth suppression. Make only one of the above applications per growing season.

#### Rascal Herbicide plus Oust

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.25 ounce of Oust per acre.

#### Rascal Herbicide plus Escort™

This tank mixture can be applied after mowing or removal of tall fescue seedheads for turf growth suppression and control or partial control of some annual weeds. Use up to 1/3 ounce of Escort per acre.

### SMOOTH BROME

#### Rascal Herbicide plus Oust

For suppression of smooth brome growth and seedheads and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.25 ounce of Oust per acre.

### BAHIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION

When applied as directed in the indicated noncrop areas (roadsides, airports, golf course roughs, and plant sites), this product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days with sequential applications.

Apply this product 1 to 2 weeks after full greenup of bahiagrass or after the bahiagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces per acre of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume may be made at approximately 45 day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression, sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

254

A tank mixture of this product plus Oust may be applied only on roadsides for seedhead inhibition and vegetative suppression. Apply 6 fluid ounces per acre of this product plus 0.25 ounce per acre of Oust, plus 0.5 to 1 percent nonionic surfactant by total spray volume 1 to 2 weeks following an initial spring mowing. When using this product plus Oust for suppression of bahiagrass, make only 1 application per year.

### CROPPING SYSTEMS

When applied as directed for "CROPPING SYSTEMS", under the conditions described, this product controls annual and perennial weeds listed on this label, prior to the emergence of direct seeded crops or prior to transplanting of crops listed on this label.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for essential product performance information.

See the following "CROPPING SYSTEMS" sections for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Except as otherwise specified on this label, repeat treatments must be made before the crop emerges in accordance with the instructions of this label.

Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts per acre of this product per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

For any crop not listed below, applications must be made at least 30 days prior to planting.

Do not harvest or feed treated vegetation for 8 weeks following application. Following spot treatment or selective equipment use, allow 14 days before grazing domestic livestock or harvesting forage grasses and legumes.

#### ROW CROPS

CORN (ALL)\*  
COTTON\*  
PEANUTS  
SORGHUM (MILO)\*  
SOYBEANS\*  
SUGARCANE\*

#### CEREAL GRAINS

BARLEY\*  
BUCKWHEAT\*  
MILLET (PEARL, PROSO)\*  
OATS\*  
RICE\*\*  
RYE\*  
TRITICALE\*  
WHEAT (ALL)\*  
WILD RICE\*

#### CITRUS

CALAMONDIN  
CHIRONJA  
CITRON  
GRAPEFRUIT  
KUMQUAT  
LEMON  
LIME  
MANDARIN ORANGE  
ORANGE (ALL)  
PUMMELO

#### TANGELO

TANGERINE  
TANGORS

#### TREE NUTS

ALMOND  
BEECHNUT  
BRAZIL NUT  
BUTTERNUT  
CASHEW  
CHESTNUT  
CHINQUAPIN  
FILBERT (HAZELNUT)  
HICKORY NUT  
MACADAMIA  
PECAN  
PISTACHIO  
WALNUT (BLACK, ENGLISH)

#### VINE CROPS

GRAPES  
KIWI FRUIT

#### TREE FRUITS

APPLE  
APRICOTS  
CHERRY (SWEET, SOUR)  
LOQUAT  
MAYHAW  
NECTARINE

255

TREE FRUITS (continued)

OLIVE  
PEACH  
PEAR  
PLUM/PRUNE (ALL)  
QUINCE

VEGETABLES

ARTICHOKE,  
JERUSALEM  
ASPARAGUS\*  
BEANS (ALL)  
BEET GREENS  
BEETS (RED, SUGAR)  
BROCCOLI (ALL)  
BRUSSELS SPROUTS  
CABBAGE (ALL)  
CABBAGE, CHINESE  
CANTALOUPE\*\*\*  
CARROT  
CAULIFLOWER  
CASABA MELON\*\*\*  
CELERIAC  
CELERY  
CHARD, SWISS  
CHICORY  
COLLARDS  
CRENSHAW MELON\*\*\*  
CUCUMBER\*\*\*  
EGGPLANT\*\*\*  
ENDIVE  
GARLIC\*\*\*  
GOURDS\*\*\*  
GROUND CHERRY\*\*\*  
HONEYDEW MELON\*\*\*  
HONEY BALL MELON\*\*\*

HORSERADISH  
KALE  
KOHLRABI  
LEEK  
LENTILS  
LETTUCE  
MANGO MELON\*\*\*  
MELONS (ALL)\*\*\*  
MUSKMELON\*\*\*  
MUSTARD GREENS  
OKRA  
ONION  
PARSLEY  
PARSNIPS  
PEAS (ALL)  
PEPPER (ALL)\*\*\*  
PERSIAN MELON\*\*  
POTATO (IRISH, SWEET)  
PUMPKIN\*\*\*  
RADISH  
RAPE GREENS  
RHUBARB  
RUTABAGA  
SHALLOT

SPINACH (ALL)  
SQUASH  
(SUMMER, WINTER)\*\*\*  
TOMATILLO\*\*\*  
TOMATO\*\*\*†  
TURNIP  
WATERCRESS\*\*\*  
WATERMELON\*\*\*  
YAMS

SMALL FRUITS AND BERRIES

BLACKBERRY  
BLUEBERRY  
BOYSENBERRY  
CRANBERRY  
CURRANT  
DEWBERRY  
ELDERBERRY  
GOOSEBERRY  
HUCKLEBERRY  
LOGANBERRY  
OLALLIEBERRY  
RASPBERRY (BLACK, RED)

FORAGE CROPS AND LEGUMES

ALFALFA\*  
FORAGE GRASSES\*  
FORAGE LEGUMES\*

TROPICAL CROPS

ACEROLA  
ATEMOYA  
AVOCADO  
BANANA  
BREADFRUIT  
CANISTEL  
CARAMBOLA

CHERIMOYA  
COCOA BEANS  
COFFEE  
DATES  
FIGS  
GENIP  
GUAVA  
JABOTICABA  
JACKFRUIT  
LONGAN  
LYCHEE  
MANGO  
PAPAYA  
PASSION FRUIT  
PERSIMMONS  
PINEAPPLE\*\*\*\*  
PLANTAINS  
POMEGRANATE  
SAPODILLA  
SAPOTE (BLACK, MAMEY  
WHITE)  
SOURSOP  
SUGAR APPLE  
TAMARIND  
TEA

\*Spot treatments may be applied in these crops.

\*\*Do not treat rice fields or levees when the fields contain flood water.

\*\*\*Apply only prior to planting. Allow at least 3 days between application and planting.

\*\*\*\*Do not feed or graze treated pineapple forage following application.

†Use is restricted to direct seeded crops only.

When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to transplanting. Residues can be removed by a single 0.5 inch application of water, either by natural rainfall or via a sprinkler irrigation system. Applications made at emergence will result in injury or death to emerged seedlings.

**Spot Treatment** (Only those crops with "\*" can be spot treated.) — Applications in growing crops must be made prior to heading of small grains and milo, initial pod set in soybeans, silking of corn, or boll opening on cotton.

For dilution and rates of application using boom or hand-held equipment, see "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" and "WEEDS CONTROLLED" sections of this label.

For forage grasses and forage legumes see "SPOT TREATMENT" in the "PASTURES" section of "CROPPING SYSTEMS" in this label.

**NOTE:** FOR FORAGE GRASSES AND FORAGE LEGUMES, NO MORE THAN ONE-TENTH OF ANY ACRE SHOULD BE TREATED AT ONE TIME. FOR ALL OTHER CROPS, DO NOT TREAT MORE THAN 10 PERCENT OF THE TOTAL FIELD AREA TO BE HARVESTED.

THE CROP RECEIVING SPRAY IN TREATED AREA WILL BE KILLED. TAKE CARE TO AVOID DRIFT OR SPRAY OUTSIDE TARGET AREA FOR THE SAME REASON.

**Selective Equipment**—This product may be applied through recirculating sprayers, shielded applicators or wiper applicators in cotton and soybeans. Shielded and wiper applicators may also be used in tree crops and grapes. Wiper applicators may be used in wheat, rutabagas, forage grasses and forage legumes, including pasture sites and grain sorghum (milo).

See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

Allow at least the following time intervals between application and harvest:

Cotton, Soybeans .....	7 days
Apples, Citrus, Pear .....	1 day
Atemoya, Avocado, Breadfruit, Canistel, Carambola, Cherry, Grapes, Dates, Jaboticaba, Jackfruit, Longan, Lychee, Passion Fruit, Persimmons, Rutabagas, Sapodilla, Sapote, Sourpaw, Sugar Apple, Tamarind .....	14 days
Stone Fruit .....	17 days
Nut Crops .....	3 days
Wheat <sup>1</sup> .....	35 days
Sorghum (milo) <sup>1,2</sup> .....	40 days

<sup>1</sup> Do not use roller applicators.

<sup>2</sup> Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

## ASPARAGUS

When applied as directed for "CROPPING SYSTEMS" under the conditions described, this product controls weeds listed on this label in asparagus.

For specific rates of applications and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

**Prior to Crop Emergence**—Apply this product prior to crop emergence for the control of emerged labeled annual and perennial weeds. DO NOT APPLY WITHIN A WEEK BEFORE THE FIRST SPEARS EMERGE.

**Spot Treatment**—Apply this product immediately after cutting, but prior to the emergence of new spears. Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

257

**Postharvest**—Apply this product after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears. Direct contact of the spray with the asparagus may result in serious crop injury.

**NOTE:** Select and use recommended types of spray equipment for postemergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

## BERRIES AND SMALL FRUITS

Wiper applicators may be used in cranberries in accordance with instructions in this section.

For other berries, apply as a preplant broadcast application, or as a directed spray or wiper application post-planting.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for essential product performance information.

See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on recommended use and calibration of this equipment.

Allow a minimum of 30 days between last application and harvest of cranberries. For other small fruits and berries, allow a minimum of 14 days between last application and harvest.

**For Wick or other Wiper Applicators**—Mix 1 gallon of this product in 4 gallons of water to prepare a 20 percent solution.

In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes or foliage.

## CORN

**Hooded Sprayers**—This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used.

A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution. This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. The spray hoods must be operated on the ground or skimming across the ground. Tractor speed must be adjusted to avoid bouncing of the spray hoods. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

When applying to corn that is grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows.

Follow these requirements:

- The Spray hoods must be operated on the ground or skimming across the ground.
- Do not apply more than 1 quart of this product per acre per application.
- Corn must be at least 12 inches tall, measured without extending leaves.

- Leave at least an 8 inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.
- Maximum tractor speed: 5 mph.
- Maximum wind speed: 10 mph.
- Use low-drift nozzles.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

Do not graze or feed corn forage or fodder following applications of this product through hooded sprayers.

Do not apply more than 3 quarts of this product per acre per year for hooded sprayer applications.

## FALLOW AND REDUCED TILLAGE SYSTEMS

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO SUPPLEMENTAL LABEL.

Use this product in fallow and reduced tillage systems for control of annual weeds prior to emergence of crops listed in this label. Refer to the "WEEDS CONTROLLED" section of this label for specific rates and instructions. This product may be applied using ground or aerial spray equipment. See the "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for instructions.

### TANK MIXTURES

**RASCAL Herbicide plus BANVEL  
plus NONIONIC SURFACTANT**

**RASCAL Herbicide plus 2,4-D  
plus NONIONIC SURFACTANT**

DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

Applications of 2,4-D or Banvel must be made at least 7 days prior to planting corn.

The addition of Banvel in a mixture with this product may provide short-term residual control of selected weed species. Some crop injury may occur if Banvel is applied within 45 days of planting. Refer to the Banvel and 2,4-D labels for cropping restrictions and other use instructions.

259

**RASCAL Herbicide plus GOAL™  
plus NONIONIC SURFACTANT**

This product alone or in tank mixtures with Goal plus 0.5 to 1 percent nonionic surfactant by total spray volume will provide control of those weeds listed below.

Make applications when weeds are actively growing and at the recommended stages of growth. Avoid spraying when weeds are subject to moisture stress, when dust is on the foliage or when straw canopy covers the weeds.

<u>Rascal 12 fluid oz/acre</u>		<u>Rascal 16 fluid oz/acre</u>	
Wheat	18"	Annual grasses at left plus:	
Barley	12"	Ryegrass,	
Bluegrass,		annual	6"
annual	6"	Chickweed	6"
Barnyardgrass	6"	Groundsel	6"
Rye	6"	Marestail	6"
		Rocket, London	6"
		Shepherd's-purse	6"
		Crabgrass	12"
		Johnsongrass,	
		seedling	12"
		Lambsquarters	12"
		Oats, wild	12"
		Pigweed, redroot	12"
		Mustards	12"

**NOTE:** Use 32 fluid ounces of this product per acre where heavy weed densities exist.

<u>Rascal 12 fluid oz/acre</u>		<u>Rascal 16 fluid oz/acre</u>	
+		+	
<u>GOAL ** 2 to 4 fluid oz/acre</u>		<u>GOAL ** 2 to 4 fluid oz/acre</u>	
Annual grasses above plus:		Annual weeds above plus:	
Cheeseweed,		Cheeseweed,	
common	3"	common	6"
Chickweed	3"	Groundsel	6"
Groundsel	3"	Chickweed	12"
Rocket, London	6"	Rocket, London	12"
Shepherd's-purse	6"	Shepherd's-purse	12"

**NOTE:** Use 32 fluid ounces of this product per acre in mixtures with 2 to 4 fluid ounces of Goal per acre where heavy weed densities exist.

\*Maximum height or length in inches.

\*\*Use the higher rate of Goal when weeds approach maximum recommended height or stands are dense.

These recommended tank mixtures may be applied using ground or aerial spray equipment. Refer to the "WEEDS CONTROLLED" section of this label for specific rates and instructions.

**ECOFARMING SYSTEMS**

The recommendations made in this section are not registered for use in California.

The Ecofarming System consists of the following rotation: winter wheat, corn/sorghum, ecofallow.

Use the following tank mixtures for control of emerged annual weeds before planting corn or sorghum in the Ecofarming System.

**RASCAL Herbicide at 16 to 20 fluid ounces per acre plus  
2,4-D at 0.375 to 0.5 pound a.i. per acre plus  
ATRAZINE at 0.75 to 1 pound a.i. per acre plus  
LASSO® at 2.5 to 3 quarts per acre**

The above tank mixture should be applied in 28-0-0 or 32-0-0 liquid fertilizer carrier at 20 to 30 gallons per acre. The liquid fertilizer may be diluted with water to achieve the desired carrier volume.

260



**WEEDS CONTROLLED**—The following weeds, up to a maximum height of 4 inches, will be controlled:

<b>Brome, downy</b> <i>Bromus tectorum</i>	<b>Lettuce, prickly</b> <i>Lactuca serriola</i>
<b>Cheat</b> <i>Bromus secalinus</i>	<b>Pigweed, redroot</b> <i>Amaranthus retroflexus</i>
<b>Foxtail, green</b> <i>Setaria viridis</i>	<b>Thistle, Russian</b> <i>Salsola kali</i>
<b>Foxtail, yellow</b> <i>Setaria lutescens</i>	<b>Wheat, volunteer</b> <i>Triticum aestivum</i>
<b>Kochia*</b> <i>Kochia scoparia</i>	

\*For improved control of kochia, add 4 fluid ounces per acre (0.125 pound a.i. per acre) of Banvel to the above tank mixture.

Risk of crop injury from 2,4-D or Banvel can be reduced by applying this treatment 7 to 14 days before planting.

Refer to the label booklet for Lasso herbicide for preemergence weed control achieved by this tank mixture.

Refer to the specific product labels for crop rotation restrictions and cautionary statements for all products used in these tank mixtures.

#### AID TO TILLAGE

This product, when used in conjunction with preplant tillage practices, will provide control of downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make applications when weeds are actively growing and before they are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage. Tank mixtures with residual herbicides may result in reduced performance.

### POSTHARVEST GRAIN SORGHUM, SORGHUM REGROWTH CONTROL

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of this product per acre for control, or 1.5 pints of this product per acre for suppression. Use 0.5 percent nonionic surfactant in 3 to 10 gallons of spray solution per acre.

#### PASTURES

Apply this product prior to planting forage grasses and legumes.

**Pasture or Hay Crop Renovation**—When applied as a broadcast spray, this product controls the annual and perennial weeds listed in this label prior to planting forage grasses or legumes. Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

**Spot Treatment**—When applied as a spot treatment as recommended, this product controls annual and perennial weeds listed in this label which are growing in pastures, forage grasses and forage legumes composed of bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa or clover.

**Wiper Application**—When applied as directed, this product controls or suppresses the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label.

For spot treatment and wiper application, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Further applications may be made in the same area at 30-day intervals. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

261

## SUGARCANE

When applied as directed for "CROPPING SYSTEMS", under the conditions described, this product controls those emerged annual and perennial weeds listed on this label growing in or around sugarcane or in fields prior to the emergence of plant cane. This product will also control undesirable sugarcane.

**NOTE:** Where repeat treatments are necessary, do not exceed a total of 10.6 quarts of this product per acre per year. Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

**Broadcast Treatment**—Apply this product in 10 to 40 gallons of water per acre on emerged weeds prior to the emergence of plant cane.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

For removal of last stubble or ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 or more new leaves. Allow 7 or more days after application before tillage.

**Spot Treatment in or Around Sugarcane Fields**—For dilution and rates of application using hand-held equipment, see "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" and "WEEDS CONTROLLED" sections of this label.

For control of volunteer or diseased sugarcane, make a 1 percent solution of this product in water and spray to wet the foliage of vegetation to be controlled.

**NOTE:** When spraying volunteer or diseased sugarcane, the plants should have at least 7 new leaves.

Avoid spray contact with healthy cane plants since severe damage or destruction may result.

Do not feed or graze treated sugarcane forage following application.

## CONSERVATION TILLAGE, MINIMUM TILLAGE AND NO-TILL SYSTEMS CORN AND SOYBEANS

### TANK MIXTURES

The recommendations made in this section are not registered for use in California.

When applied as recommended under the conditions described, the tank mixtures listed in this section control many emerged weeds, and give preemergence control of many annual weeds where corn or soybeans will be planted directly into a cover crop, established sod or in previous crop residues.

Refer to specific product labels for crop rotation restrictions and cautionary statements of all products used in these tank mixtures. For mixing instructions, see the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label.

Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre before, during or after planting. Do not apply these mixtures after crop emergence.

When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution. The addition of 1 to 2 percent dry ammonium sulfate by weight may increase the performance of this product.

**NOTE:** When using these tank mixtures, do not exceed 4 quarts of this product per acre.

262

### CORN

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

LASSO/ALACHLOR	ATRAZINE
LARIAT®	CYANAZINE
BULLET®	SIMAZINE
DUAL MAGNUM™	PROWL™
BICEP MAGNUM™	MICRO-TECH®
PARTNER®	

For improved burndown, this product may be tank-mixed with 2,4-D or dicamba. Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn. See the "WEEDS CONTROLLED" section for specific rate information.

### SOYBEANS

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

CANOPY™	LOROX™ PLUS
COMMAND™	PREVIEW™
DUAL MAGNUM	PROWL
GEMINI™	TURBO™
LASSO/ALACHLOR	SCEPTER™
LEXONE™	SENCOR™
LINURON	SQUADRON™
PURSUIT™	PURSUIT PLUS™
PARTNER	MICRO-TECH®

For improved burndown, this product may be tank-mixed with the following herbicides:

2,4-DB	2,4-D*
--------	--------

\*See the label for 2,4-D for intervals between application and planting.

### CORN AND SOYBEANS

**Annual Weeds**—For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 5 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall. For a complete list of annual weeds controlled, see the "WEEDS CONTROLLED" section of this label.

**Perennial Weeds**—At normal application times in minimum tillage systems, perennial weeds may not be at the proper stage of growth for control. See the "WEEDS CONTROLLED" section of this label for the proper stage of growth for perennial weeds.

Use of 2 to 4 quarts of this product per acre in the tank mixtures mentioned above, under these conditions provides top kill and reduces competition from many emerged perennial grass and broadleaf weeds. For emerged perennial weeds controlled, see the "WEEDS CONTROLLED" section of this label.

To obtain the desired stage of growth, it may be necessary to apply this product alone in the late summer or fall and then follow with a label-approved, seedling weed-control program at planting.

**USE OF THESE TANK MIXTURES FOR BERMUDAGRASS OR JOHNSONGRASS CONTROL IN MINIMUM TILLAGE SYSTEMS IS NOT RECOMMENDED.** For bermudagrass control, follow the instructions under "CONTROL OF PERENNIAL WEEDS" section of this label and then use a label-approved, seedling weed-control program in a minimum tillage or conventional tillage system. For johnsongrass control, follow instructions under "CONTROL OF PERENNIAL WEEDS" section of this label, and then use a label-approved, seedling weed-control program with conventional tillage.

## PREHARVEST APPLICATIONS

When applied as directed under the conditions described, this product controls annual and perennial weeds listed on this label prior to the harvest of cotton, soybeans, grain sorghum (milo), and wheat.

For specific rates and application instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

This product may be applied by both ground and aerial application equipment. DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT BY AIR. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions for ground and aerial applications.

**NOTE:** Do not apply to crops grown for seed. Reduction in germination or vigor may occur.

The use of this product for preharvest grain sorghum (milo) is not registered in California.

### SOYBEANS

Apply after pods have set and lost all green color. Allow a minimum of 7 days between application and harvest of soybeans. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application.

DO NOT APPLY MORE THAN 6 QUARTS PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS.

### COTTON

**Broadcast Applications**—This product may be applied using either aerial or ground spray equipment. For ground applications with broadcast equipment, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

This product provides weed control and cotton regrowth inhibition when applied prior to the harvest of cotton. Apply 1 to 2 quarts of this product in 3 to 10 gallons of water per acre for cotton regrowth inhibition. Do not apply more than 2 quarts of this product per acre for preharvest applications. THE USE OF ADDITIVES FOR PREHARVEST APPLICATION TO COTTON IS PROHIBITED.

This product may be tank mixed with DEF<sup>TM</sup> 5, Folex<sup>TM</sup>, or Prep<sup>TM</sup> to provide additional enhancement of cotton leaf drop.

Allow a minimum of 7 days between application and harvest of cotton.

Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

Do not feed or graze treated cotton forage or hay following preharvest applications.

### GRAIN SORGHUM (MILO)

Make applications at 30 percent grain moisture or less and at least 7 days prior to harvest.

Apply up to 2 quarts of this product per acre.

### WHEAT

Apply after the hard-dough stage of grain (30 percent or less grain moisture) and at least 7 days prior to harvest.

DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS TO WHEAT.

264

## TREE AND VINE CROPS

This product is recommended for weed control in established groves, vineyards, and orchards, or for site preparation prior to transplanting crops listed in this section. Applications may be made with boom equipment, COA, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed in this section. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for specific information on use of equipment.

When applying this product, refer to the "WEEDS CONTROLLED" section of this label and to specific recommendations in this section for rates to be used.

**NOTE:** Repeat treatments may be necessary to control weeds originating from underground parts of untreated weeds or from seeds. This product does not provide residual weed control. For subsequent weed control, use repeated applications of this product. Do not apply more than 10.6 quarts of this product per acre per year.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT OR OTHER PARTS OF TREES OR VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.**

**AVOID PAINTING OUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES.**

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut and have not been allowed to regrow to the recommended stage for treatment.

For specific rates of applications and instructions, see the "WEEDS CONTROLLED" section of this label, and to specific recommendations which follow.

## MIDDLES MANAGEMENT

(For Annual Weeds in Middles Between Rows of Tree and Vine Crops)

For citrus crops, treat uniformly between trees.

### RASCAL Herbicide

or

### RASCAL Herbicide plus GOAL

This product alone or in mixtures with Goal will control or suppress the annual weeds listed below.

Apply the recommended rates of this product, either alone or in mixtures with Goal, plus 0.5 to 1 percent nonionic surfactant by spray volume in 3 to 10 gallons of water per acre. Apply when weeds are actively growing and less than 6 inches in height or diameter. If weeds are under drought stress, irrigate prior to application. Reduced control may occur if weeds have been mowed prior to application. Up to 48 fluid ounces per acre of this product may be used to control weeds, which have been mowed, are stressed or are growing in dense populations.

WEED SPECIES	MAXIMUM HEIGHT/DIAMETER (INCHES)	RATE PER ACRE	
		RASCAL (FLUID OUNCES)	GOAL (FLUID OUNCES)
Barley <i>Hordeum vulgare</i>	6	8	—
Bluegrass, annual <i>Poa annua</i>			
Barnyardgrass <i>Echinochloa crus-galli</i>	6	12	—
Chickweed, common <i>Stellaria media</i>			
Red Maids <i>Calandrinia ciliata</i>			

265

WEED SPECIES	MAXIMUM HEIGHT/ DIAMETER (INCHES)	RATE PER ACRE	
		RASCAL (FLUID OUNCES)	GOAL (FLUID OUNCES)
Crabgrass <i>Digitaria spp.</i>	6	16	—
Fleabane, hairy <i>Conyza bonariensis</i>		OR	
Groundsel, common <i>Senecio vulgaris</i>		16 to 32 ÷ 4 to 16**	
Junglerice <i>Echinochloa colonum</i>			
Lambsquarters, common <i>Chenopodium album</i>			
Pigweed, redroot <i>Amaranthus retroflexus</i>			
Rocket, London <i>Sisymbrium irio</i>			
Ryegrass, common <i>Lolium multiflorum</i>			
Shepherd's-purse <i>Capsella bursa-pastoris</i>			
Sowthistle, annual <i>Sonchus oleraceus</i>			
Cheeseweed, common <i>Malva spp.</i>	3	12 to 32 ÷ 4 to 16	
Cheeseweed, common <i>Malva spp.</i>	6	16 to 32 ÷ 4 to 16	

Filaree* <i>Erodium spp.</i>		
Horseweed/Marestail <i>Conyza canadensis</i>		
Nettle, stinging <i>Urtica dioica</i>		
Purselane, common* <i>Portulaca oleracea</i>		

\*Suppression only.

\*\*The mixture of this product plus Goal is recommended when weeds are stressed or growing in dense populations.

### STRIPS

(For Annual and Perennial Weeds in Strips  
of Tree and Vine Crops)

#### ■ TANK MIXTURES WITH RESIDUAL HERBICIDES ■

When applied as a tank mixture, this product provides control of the emerged annual weeds and control or suppression of emerged perennial weeds listed in this label. The following residual herbicides will provide preemergence control of those weeds listed in the individual product labels.

RASCAL Herbicide plus GOAL 2XL

RASCAL Herbicide plus XARMEX™ OF

RASCAL Herbicide plus KROVAR I

RASCAL Herbicide plus KROVAR II

RASCAL Herbicide plus SIMAZINE, PRINCEP CALIBER 90

RASCAL Herbicide plus SIMAZINE 4L

RASCAL Herbicide plus SIMAZINE 80W

266

RASCAL Herbicide plus SOLICAM™ 80DF

RASCAL Herbicide plus SURFLAN AS

RASCAL Herbicide plus SURFLAN 75W

RASCAL Herbicide plus SIMAZINE  
(80W, or 4L, or PRINCEP CALIBER 90)  
plus SURFLAN (AS or 75W)

RASCAL Herbicide plus GOAL 2XL  
plus SURFLAN (AS or 75W)

RASCAL Herbicide plus GOAL 2XL  
plus SIMAZINE (80W, or 4L, or PRINCEP CALIBER 90)

RASCAL Herbicide plus GOAL 2XL  
plus SURFLAN (AS or 75W) plus SIMAZINE  
(80W, 4L, or PRINCEP CALIBER 90)

Do not apply these tank mixtures in Puerto Rico.

When tank-mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution.

Refer to the individual product labels for specific crops, rates, geographical restrictions and precautionary statements.

Read and carefully observe the label claims, cautionary statements, rates and all other information on the labels of all products.

#### RECOMMENDED RATES

**Annual Weeds**—Apply 1 to 5 quarts per acre of this product in these tank mixtures. Use rates at the higher end of the recommended range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.

**Perennial Weeds**—Apply 1 pint to 5 quarts per acre of this product in these tank mixtures to control or suppress perennial weeds. Follow the recommendations in the "WEEDS CONTROLLED" section of this label for stage of growth and application rates for specific perennial weeds.

#### ■ RASCAL Herbicide plus GOAL plus SIMAZINE/SURFLAN ■

This product plus low rates of Goal in 3-way or 4-way mixtures with simazine and/or Surflan will provide postemergence control of the weeds listed below.

Refer to the individual simazine and Surflan labels for preemergence rates, weeds controlled, precautionary statements and other important information.

Apply these tank mixtures in 3 to 40 gallons of water. Add 0.5 to 1 percent nonionic surfactant by total spray volume to the spray solution.

Apply 1 to 5 quarts per acre of this product plus 4 to 48 fluid ounces per acre of Goal plus labeled rates of simazine and/or Surflan to control the following weeds:

Barley, wild <i>Hordeum leporinum</i>	Horseweed/Marestail <i>Conyza canadensis</i>
Bluegrass, annual <i>Poa annua</i>	Nettle, stinging <i>Urtica dioica</i>
Cheeseweed, common <i>Mahoe spp.</i>	Pineappleweed <i>Matricaria matricarioides</i>
Chickweed, common <i>Stellaria media</i>	Rocket, London <i>Sisymbrium irio</i>
Filaree* <i>Erodium spp.</i>	Shepherd's-purse <i>Capsella bursa-pastoris</i>
Fleabane, hairy <i>Conyza bonariensis</i>	Sowthistle, annual <i>Sonchus oleraceus</i>
Groundsel, common <i>Senecio vulgaris</i>	

\*Use a minimum of 1.5 quarts of this product in these mixtures.

267

NOTE: This recommendation does not preclude the use of Goal in these mixtures at higher, labeled rates for preemergence weed control.

### PERENNIAL GRASS SUPPRESSION ORCHARD FLOORS

When applied as directed, this product will suppress vegetative growth as indicated below.

#### ■ BAHIA GRASS ■

This product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with a single application and approximately 120 days with sequential applications. Apply this product 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus nonionic surfactant may be made at approximately 45-day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression, sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces may be made approximately 45 days after the last application.

#### ■ BERMUDAGRASS ■

For burndown, apply 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre. Use 1 quart of this product in 3 to 20 gallons of water per acre east of the Rocky Mountains. Use 1 to 2 quarts of this product in 3 to 10 gallons of water per acre west of the Rocky Mountains. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

**Suppression only (east of the Rocky Mountains)**—Apply 6 to 16 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Rates of 6 to 10 fluid ounces of this product plus nonionic surfactant should be used in shaded conditions or where a lesser degree of suppression is desired. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.

**Suppression only (west of the Rocky Mountains)**—Apply 16 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre to bermudagrass up to 6 inches in height and no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.

#### ■ COOL SEASON GRASS COVERS ■

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. For best suppression, add ammonium sulfate to the spray solution at a rate of 2 percent by weight or 17 pounds per 100 gallons of spray solution.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant. Do not add ammonium sulfate.

For best results, mow cool-season grass covers in the spring to even their height and apply the recommended rate of this product 3 to 4 days after mowing. Avoid treating cool season grass covers under poor growing conditions, such as drought stress (drip irrigation), disease or insect damage.

268



## LOW VOLUME APPLICATION

(Florida and Texas)

For burndown or control of the weeds listed, apply the recommended rates of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

### ANNUAL WEEDS

**Goatweed**—Apply 2 to 3 quarts per acre of this product plus 17 pounds of ammonium sulfate per 100 gallons of water plus 0.5 to 1 percent nonionic surfactant by total spray volume. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches. If goatweed is greater than 8 inches tall, the addition of Krovar II or Karmex may improve control. Use labeled rates for these residual products.

Read and carefully observe the label claims, cautionary statements, rates and all other information on the Krovar II and Karmex labels.

### PERENNIAL WEEDS

Apply when weeds are actively growing and at the growth stages listed in the "PERENNIAL WEEDS CONTROLLED" section of this label. If perennial weeds are mowed, allow weeds to regrow to the recommended stage of growth.

S = Suppression  
PC = Partial control

B = Burndown  
C = Control

WEED SPECIES	Rascal RATE PER ACRE			
	1 qt	2 qts	3 qts	5 qts
Bermudagrass	B	•	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	•	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	•	PC	C

## TREE CROPS

**Citrus\*\*\*\*\***: calamondin, chironja, citron, grapefruit, kumquat, lemon, lime, mandarin orange, orange, pummelo, tangelo, tangerine, tangors.

**Nuts\*\***: almond, beechnut, Brazil nut, butternut, cashew, chestnuts, chinquapin, filbert, hazel nut, hickory nut, macadamia, pecan, pistachio, walnut.

**Pome Fruit\*\*\*\*\***: apple, loquat, mayhaw, pear, quince.

**Stone Fruit\*\*\***: apricots, cherries, nectarines, olives, peaches, plums/prunes.

For cherries, any application equipment listed in this section may be used in all states.

For citron and olives, apply as a directed spray only.

Any application equipment listed in this section may be used in apricots, nectarines, peaches and plums/prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah and Washington, except for peaches grown in the states specified in the following paragraph. In all other states use wiper equipment only.

For PEACHES grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator, which prevents any contact of this product with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees which have been planted in the orchard for 2 or more years. EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.

269

Tropical Fruit: acerola\*, atemoya\*, avocado\*, banana\*\*\*\*\*, breadfruit\*, canistel\*, carambola\*, cherimoya\*, cocoa beans\*, coffee\*\*\*\*, dates\*, figs\*, genip\*, guava\*\*\*\*\*, jaboticaba\*, jackfruit\*, longan\*, lychee\*, mango\*, mayhaw\*, papaya\*\*\*\*\*, passion fruit\*, persimmons\*, plantains\*\*\*\*\*, pomegranate\*, sapodilla\*, sapote\*, soursop\*, sugar apple\*, tamarind\*, tea\*. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

**NOTE:**

- \* Allow a minimum of 14 days between last application and harvest.
- \*\* Allow a minimum of 3 days between last application and harvest.
- \*\*\* Allow a minimum of 17 days between last application and harvest.
- \*\*\*\* Allow a minimum of 28 days between last application and harvest.
- \*\*\*\*\* Allow a minimum of 1 day between last application and harvest.

**VINE CROPS**

**Kiwi Fruit**

Grapes: Any variety of table, wine or raisin grape may be treated with any equipment listed in this section.

Applications should not be made when green shoots, canes, or foliage are in the spray zone.

Allow a minimum of 14 days between last application and harvest.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury.

Bullet, Rascal, Lariat, Lasso, Micro-Tech and Partner are registered trademarks and Monsanto and the Vine symbol are trademarks of Monsanto Technology LLC.

Canopy, Diuron, Escort, Krovar, Lexone, Oust and Telar are trademarks of E.I. duPont de Nemours and Co. Inc.

Boundary, Bicep MAGNUM, Dual MAGNUM, Princep, Princep Caliber and Solicam are trademarks of Syngenta Crop Protection Inc.

Surtlan and Coal are trademarks of Dow AgroSciences LLC.

Banvel, Prowl, Pursuit, Pursuit Plus, Scepter and Squadron are trademarks of BASF Corp.

Ronstar, Folex and Prep are trademarks of Aventis CropSciences.

DEF and Sencor are trademarks of Bayer Crop Protection.

Command is a trademark of FMC Corporation.

Karmex and Lorox are trademarks of Griffin LLC.

No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-445

2115123-1/53

---

In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

---

© 2002 MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167 U.S.A.

MONSANTO





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

JUN 25 2002

I, Jim Tompkins, Product Manager of Team Number 25, Herbicide Branch, Registration Division, Office of Pesticide Programs, Office of Prevention, Pesticides and Toxic Substances, United States Environmental Protection Agency ("EPA"), confirm that the pesticide product listed below is of the date of this letter, registered with EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, and that accordingly, the product may be sold and marketed in the United States of America as authorized and limited by FIFRA. A true and correct copy of the product label approved by EPA is attached to accompany this letter.

Registration of the product(s) with EPA also denotes that the registrant listed below is responsible for ensuring full compliance with laws of the United States of America or governing jurisdiction, regarding the sale, storage and/or disposal of the product(s). Further, the recipient of this letter is on notice that the status of the referenced registration and/or the accompanying label may change subsequent to the date of this letter. EPA assumes no responsibility to notify any recipient of this letter of any change in the status of the registration(s) and/or the product label for the product(s) listed below.

EPA has issued a registration number for the product listed below to

Monsanto Company  
600 13<sup>th</sup> Street, N. W., Suite 660  
Washington, D.. 20005

EPA Reg. No.

524-445

Product Name.

Roundup Original Herbicide

Jim Tompkins  
Product Manager (25)  
Herbicide Branch  
Registration Division



*Nowritten request  
60 copies given to M. Gray - 6-27-02 272*

MONSANTO



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
PHONE (202) 783-2460  
FAX (202) 783-2468  
<http://www.monsanto.com>

January 29, 2002

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Honcho Herbicide (EPA Reg. No. 524-445)  
Submission of Final Printed Supplemental Label for  
Postemergence Applications to Soybeans with the Roundup Ready® Gene

Dear Mr. Tompkins:

Monsanto is submitting for your files, three (3) copies of the final printed supplemental label for Honcho Herbicide (EPA Reg. No. 524-445, Print Plate No. 21152A4-8) for the above use. The minor revision to this supplemental is the removal of the expiration date.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Marsha Gray or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: M. Gray  
A. Kirk

273



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

288000

## Application for Pesticide - Section I

1. Company/Product Number 524-445	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Honcho Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Final printed label  
Print Plate No. 21152A4-8

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Marsha Gray		Title Registration Manager		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamp)  274
2. Signature 		3. Title Registration Specialist			
4. Typed Name Debra Hinton		5. Date 1/29/2002			

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendment.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

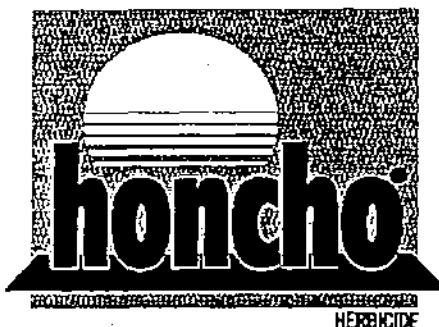
- 1-5. Self-explanatory.
6. EPA Use Only.

275

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR HONCHO® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Honcho herbicide, container labels and this supplement.



EPA Reg. No. 524-445

Honcho and Roundup Ready are registered trademarks of Monsanto Technology, LLC.

### FOR POSTEMERGENCE APPLICATIONS TO SOYBEANS WITH THE ROUNDUP READY® GENE

Keep out of reach of children.

### WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Honcho® herbicide for essential product performance information.

#### GENERAL INFORMATION

THIS PRODUCT IS RECOMMENDED FOR POST-EMERGENCE APPLICATION ONLY ON SOYBEAN VARIETIES DESIGNATED AS CONTAINING THE ROUNDUP READY® GENE.

- Applying this product to soybean varieties which are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants which do not contain the Roundup Ready gene, since severe injury or destruction will result.
- The Roundup Ready designation indicates that the soybean contains a patented gene which provides tolerance to Honcho

herbicide. Information on Roundup Ready soybeans may be obtained from your seed supplier.

#### Application Instructions

- This product may be applied postemergence to Roundup Ready soybeans from the cracking stage throughout flowering. Allow a minimum of 14 days between final application and harvest or feeding of soybean grain, forage or hay.

#### Maximum Allowable Yearly Rates

1. **Cropping Season:** Combined total per year for all applications may not exceed 8 quarts (256 fluid ounces) per acre.
2. **Preplant, preemergence:** Maximum amount of this product which can be applied prior to crop emergence is 5 quarts (160 fluid ounces) per acre.
3. **In-crop:** Maximum combined total of single or multiple in-crop applications from cracking throughout the flowering stage is 3 quarts (96 fluid ounces) per acre.
4. **Preharvest:** Maximum amount of this product that can be applied after loss of green color in soybean pods until 14 days before harvest is 1 quart (32 fluid ounces) per acre.

276



When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product.

### Precautions/Restrictions

The combined total application from crop emergence through harvest must not exceed 3 quarts (96 fluid ounces) per acre. The maximum rate for any single in-crop application is 2 quarts (64 fluid ounces) per acre. The maximum combined total of this product which can be applied during flowering is 2 quarts (64 fluid ounces) per acre. Allow a minimum of 14 days between final application and harvest or feeding of soybean grain, forage or hay.

There are no rotational crop restrictions following applications of this product.

**For ground applications:** Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use nozzles which provide a flat fan pattern. Check for even distribution of spray droplets.

**For aerial applications:** Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart (32 fluid ounces) of this product per acre unless otherwise directed. **DO NOT APPLY DURING LOW LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. MAINTAIN APPROPRIATE BUFFER ZONES TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION.**

### ANNUAL WEED RATE TABLES

The following rate recommendations will provide control of labeled grasses and broadleaf weeds in conventional and no-till soybean production systems. Refer to the label booklet for rate recommendations for specific annual weeds.

Monsanto Company will not warrant crop safety or weed control when Roundup Ready soybeans are treated with herbicides not specified on this supplemental label. Because of the potential for: 1) crop injury, 2) poor weed control from antagonism, and/or 3) rotational crop restrictions, herbicides not specified on this supplemental label should not be used, whether applied preemergence or applied postemergence as a tank mixture with Honcho herbicide.

This product may be used up to 64 fluid ounces per acre in any single application for control of annual weeds, where heavy weed densities exist.

**NOTE:** The following recommendations are based on a clean start at planting by using a burn-down application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burn-down treatment of 16 to 64 fluid ounces per acre of this product can be used to control existing weeds prior to crop emergence.

### MIDWEST/MID-ATLANTIC RECOMMENDATIONS

**Narrow-row or drilled soybeans:** A single in-crop application of this product will provide effective control of labeled weeds. For best results, an initial application of 32 fluid ounces per acre, on 4 to 8 inch weeds is recommended. Weeds will generally be 4 to 8 inches tall 3 to 5 weeks after planting. If the initial application is

delayed and weeds are 8 to 18 inches tall, use 48 fluid ounces per acre for best results.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 24 to 32 fluid ounces per acre may be necessary to control late flushes of weeds.

**Wide-row soybeans:** An in-crop application of this product will provide effective control of the initial stand of labeled weeds. For best results, an initial application of 32 fluid ounces per acre, on 4 to 8 inch weeds is recommended. Weeds will generally be 4 to 8 inches tall 3 to 5 weeks after planting. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

### Initial and Sequential Applications (If Needed)

Weed Height (inches)	Rate (fl oz/A)
1 to 3	24
4 to 8	32
8 to 18	48

Giant ragweed: Apply 32 fluid ounces per acre when the weed is 8 to 12 inches tall to avoid the need for sequential application.

Black nightshade, Pennsylvania smartweed, velvetleaf, and waterhemp: Apply 32 fluid ounces per acre to weeds 3 to 6 inches tall and 48 fluid ounces per acre when weeds are up to 12 inches tall. For morningglory species, apply 32 fluid ounces per acre when weeds are up to 4 inches tall, and 48 fluid ounces per acre when weeds are up to 6 inches tall.

Some weeds, such as black nightshade, woolly cupgrass, shattercane, wild proso millet, burcumber, and giant ragweed, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 24 fluid ounces of this product per acre for sequential applications.

### SOUTHEAST RECOMMENDATIONS

**Narrow-row, drilled, or wide-row soybeans:** An in-crop application of this product will provide effective control of the initial stand of labeled weeds. For best results, an initial application of 32 fluid ounces per acre, on 3 to 6 inch weeds is recommended. Weeds will generally be 3 to 6 inches tall 2 to 3 weeks after planting.

### Initial Treatment

Weed Height (inches)	Rate (fl oz/A)
3 to 6	32
6 to 12	48

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 16 to 32 fluid ounces per acre may be necessary to control late flushes of weeds.

### Sequential Application (If Needed)

Weed Height (inches)	Rate (fl oz/A)
2 to 3	16
3 to 6	24
6 to 12	32

277

Florida pusley, hemp sesbania and spurred anoda: Apply 32 fluid ounces per acre to weeds 2 to 4 inches for the initial application. Apply 32 fluid ounces per acre when these weeds are 3 to 6 inches tall if a sequential application is necessary.

Morningglory, black nightshade, groundcherry, and Pennsylvania smartweed: Apply 24 fluid ounces per acre on 1 to 3 inch weeds, 32 fluid ounces per acre on 3 to 6 inch weeds, or 48 fluid ounces per acre on 6 to 12 inch weeds for the initial application.

Some weeds, such as black nightshade, broadleaf signalgrass, Texas panicum, burcumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments must not exceed 96 fluid ounces per acre.

#### DELTA/MID-SOUTH RECOMMENDATIONS

**Narrow-row, drilled, or wide-row soybeans:** An in-crop application of this product will provide effective control of the initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds. For best results, an initial application of 32 fluid ounces per acre, on 2 to 4 inch weeds is recommended. Weeds will generally be 2 to 4 inches tall 2 to 3 weeks after planting.

Initial Treatment	
Weed Height (inches)	Rate (fl oz/A)
2 to 4	32
5 to 12	48

Sequential Application (If Needed)	
Weed Height (inches)	Rate (fl oz/A)
2 to 3	16
3 to 6	24
6 to 12	32

Hemp sesbania and spurred anoda: Apply a sequential treatment of 32 fluid ounces per acre on 3 to 6 inch weeds if necessary

Some weeds, such as black nightshade, broadleaf signalgrass, Texas panicum, burcumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made

after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications.

#### PERENNIAL WEEDS RATE RECOMMENDATIONS

A 32 to 64 fluid ounces per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, maretail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpet creeper, swamp smartweed, and wirestem muhly.

For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with Honcho herbicide. For additional information on perennial weeds, see the "WEEDS CONTROLLED" section of the label booklet for Honcho herbicide. For some perennial species, repeat application may be required to eliminate crop competition throughout the growing season.

**NOTE:** Non-ionic Surfactant: Non-ionic surfactants which are labeled for use with postemergence herbicides may be used. When using additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient.

The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Read and carefully observe cautionary statements and other information appearing on the surfactant label.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Honcho herbicide before using. For over-the-top uses on Roundup Ready crop varieties, crop safety and weed control performance are not warranted by Monsanto Company when this product is used in conjunction with "brown bag" or "bin run" soybean seed saved from previous year's production and replanted. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©2002 Monsanto Company  
St. Louis, Missouri 63167

21152A4-8

11/4/1999

278

MONSANTO



MONSANTO COMPANY  
600 15TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
PHONE (202) 783-2460  
FAX (202) 783-2468  
<http://www.monsanto.com>

January 29, 2002

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original Herbicide (EPA Reg. No. 524-445)  
Submission of final printed supplemental label for  
Distribution and Use in California for Postemergence weed  
Control prior of the emergence of tomatoes

Dear Mr. Tompkins:

Monsanto submitted for your files, three (3) copies of the final printed supplemental label for Roundup Original Herbicide (EPA Reg. No. 524-445, Print Plate No. 21154A2-43) for the above use. The minor revision to this supplemental is the removal of the expiration date.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Marsha Gray or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: M. Gray  
S. Wratten

279



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

287995

## Application for Pesticide - Section I

1. Company/Product Number 524-445	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Final printed label  
Print Plate No. 21154A2-43

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Marsha Gray	Title Registration Manager	Telephone No. (Include Area Code) (202) 782-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.			8. Date Application Received (Stamped)  
2. Signature 	3. Title Registration Specialist		
4. Typed Name Debra Hinton	5. Date 1/29/2002		

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL™ HERBICIDE  
BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS  
SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for  
Roundup Original herbicide and this supplement.



EPA Reg. No. 524-445

Roundup Original is a trademark of Monsanto Technology LLC.

FOR DISTRIBUTION AND USE IN CALIFORNIA  
FOR POSTEMERGENCE WEED CONTROL PRIOR TO  
THE EMERGENCE OF TOMATOES

Keep out of reach of children.

**WARNING! AVISO!**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of the herbicide application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

When applied as directed under the conditions described in the label booklet for Roundup Original™ herbicide, the product controls annual and perennial weeds listed in the label, prior to the emergence of tomatoes.

See "GENERAL INFORMATION", "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS", and "WEEDS CONTROLLED" sections of the label booklet for Roundup Original herbicide for essential product performance information.

### RECOMMENDATIONS

This product will control annual and perennial weeds listed in the label booklet for Roundup Original herbicide prior to the emergence of direct seeded tomatoes.

**Annual Weed Control**—Apply 8 to 48 fluid ounces of this product per acre plus 0.5 to 1 percent nonionic surfactant in 3 to 10 gallons of water per acre as directed in the "LOW VOLUME BROADCAST APPLICATIONS" section of the

281

label booklet for Roundup Original herbicide.

When using 10 to 40 gallons of water per acre, use 1 quart of this product if annual weeds are less than 6 inches tall. If weeds are greater than 6 inches tall, use 1.5 quarts of this product per acre.

**Perennial Weed Control**—Apply 3 to 5 quarts of this product per acre when weeds are actively growing and most have reached early head or early bud stage of growth. See the "PERENNIAL WEEDS" section of the label booklet for Roundup Original herbicide for perennial weeds controlled and for specific treatment recommendations.

This product may be applied by ground or aerial application equipment. FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS, AND REQUIREMENTS. DO NOT EXCEED 1 QUART OF THIS PRODUCT PER ACRE.

Applications made to light, sandy soils with low organic matter may result in injury to seedling tomatoes.

Apply prior to tomato seed germination.

Applications made at emergence will result in injury or death to emerged seedlings.

---

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Original herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

---

©2002 MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167 USA

3/11/99

21154A2-43

282

MONSANTO



January 29, 2002

MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
PHONE (202) 783-2460  
FAX (202) 783-2468  
<http://www.monsanto.com>

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original Herbicide (EPA Reg. No. 524-445)  
Submission of Final Printed Supplemental Label for  
Postemergence Applications to Soybeans with the Roundup Ready Gene

Dear Mr. Tompkins:

Monsanto is submitting for your files, three (3) copies of the final printed supplemental label for Roundup Original Herbicide (EPA Reg. No. 524-445, Print Plate No. 21154A3-48) for the above use. The minor revision to this supplemental is the removal of the expiration date. This serves as the basis for our distributor products as well.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Marsha Gray or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: M. Gray  
A. Kirk

283



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

287996

## Application for Pesticide - Section I

1. Company/Product Number 524-445	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Final printed label  
Print Plate No. 21154A3-48

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Marsha Gray	Title Registration Manager	Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped)  284
2. Signature 	3. Title Registration Specialist		
4. Typed Name Debra Hinton	5. Date 1/29/2002		



## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, II, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

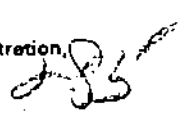
**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Print)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
  6. EPA Use Only.
- 

# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL™ HERBICIDE  
BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS  
SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Original herbicide, container labels and this supplement.



Reapplication  
2/4/02

EPA Reg. No. 524-445

Roundup Original and Roundup Ready are trademarks of Monsanto Technology LLC.

## FOR POSTEMERGENCE APPLICATIONS TO SOYBEANS WITH THE ROUNDUP READY® GENE.

Keep out of reach of children.

### WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup Original™ herbicide for essential product performance information.

#### GENERAL INFORMATION

MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT FOR POST-EMERGENCE APPLICATION ONLY ON SOYBEAN VARIETIES DESIGNATED AS CONTAINING THE ROUNDUP READY® GENE.

- Applying this product to soybean varieties which are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants which do not contain the Roundup Ready gene, since severe injury or destruction will result.
- The Roundup Ready designation indicates that the soybean contains a patented gene which provides tolerance to this herbicide. Information on Roundup Ready soybeans may be obtained from your seed supplier or Monsanto representative.

#### Application Instructions

- This product may be applied postemergence to Roundup Ready soybeans from the cracking stage throughout flowering. Allow a minimum of 14 days between final application and harvest or feeding of soybean grain, forage or hay.

#### Maximum Allowable Yearly Rates

1. **Cropping Season:** Combined total per year for all applications may not exceed 8 quarts (256 fluid ounces) per acre.
2. **Preplant, preemergence:** Maximum amount of this product which can be applied prior to crop emergence is 5 quarts (160 fluid ounces) per acre.
3. **In-crop:** Maximum combined total of single or multiple in-crop applications from cracking throughout the flowering stage is 3 quarts (96 fluid ounces) per acre.
4. **Preharvest:** Maximum amount of this product that can be applied after loss of green color in soybean pods until 14 days before harvest is 1 quart (32 fluid ounces) per acre.

When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product.

286

### Precautions/Restrictions

The combined total application from crop emergence through harvest must not exceed 3 quarts (96 fluid ounces) per acre. The maximum rate for any single in crop application is 2 quarts (64 fluid ounces) per acre. The maximum combined total of this product which can be applied during flowering is 2 quarts (64 fluid ounces) per acre. Allow a minimum of 14 days between final application and harvest or feeding of soybean grain, forage or hay.

There are no rotational crop restrictions following applications of this product.

**For ground applications:** Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use nozzles which provide a flat fan pattern. Check for even distribution of spray droplets.

**For aerial applications:** Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart of this product per acre unless otherwise directed. **DO NOT APPLY DURING LOW LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. MAINTAIN APPROPRIATE BUFFER ZONES TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION.**

### ANNUAL WEED RATE TABLES

The following rate recommendations will provide control of labeled grasses and broadleaf weeds in conventional and no-till soybean production systems. Refer to the label booklet for rate recommendations for specific annual weeds.

Monsanto will not warrant crop safety or weed control when Roundup Ready soybeans are treated with herbicides not specified on this supplemental label. Because of the potential for: 1) crop injury, 2) poor weed control from antagonism, and/or 3) rotational crop restrictions, herbicides not specified on this supplemental label should not be used, whether applied preemergence or applied postemergence as a tank mixture with Roundup Original herbicide.

This product may be used up to 64 fluid ounces per acre in any single application for control of annual weeds, where heavy weed densities exist.

**NOTE:** The following recommendations are based on a clean start at planting by using a burn down application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burn-down treatment of 16 to 64 fluid ounces per acre of this product can be used to control existing weeds prior to crop emergence.

### MIDWEST/ MID-ATLANTIC RECOMMENDATIONS

**Narrow row or drilled soybeans:** A single in-crop application of this product will provide effective control of labeled weeds. For best results, an initial application of 32 fluid ounces per acre, on 4 to 8 inch weeds is recommended. Weeds will generally be 4 to 8 inches tall 3 to 5 weeks after planting. If the initial application is delayed and weeds are 8 to 18 inches tall, use 48 fluid ounces per acre for best results.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 24 to 32 fluid

ounces per acre may be necessary to control late flushes of weeds.

**Wide row soybeans:** An in-crop application of this product will provide effective control of the initial stand of labeled weeds. For best results, an initial application of 32 fluid ounces per acre, on 4 to 8 inch weeds is recommended. Weeds will generally be 4 to 8 inches tall 3 to 5 weeks after planting. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

### Initial and Sequential Applications (If Needed)

Weed Height (inches)	Rate (fl oz/A)
1 to 3	24
4 to 8	32
8 to 18	48

**Giant ragweed:** Apply 32 fluid ounces per acre when the weed is 8 to 12 inches tall to avoid the need for sequential application.

**Black nightshade, Pennsylvania smartweed, velvetleaf, and waterhemp:** Apply 32 fluid ounces per acre to weeds 3 to 6 inches tall and 48 fluid ounces per acre when weeds are up to 12 inches tall. For morningglory species, apply 32 fluid ounces per acre when weeds are up to 4 inches tall, and 48 fluid ounces per acre when weeds are up to 6 inches tall.

Some weeds, such as black nightshade, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 24 fluid ounces of this product per acre for sequential applications.

### SOUTHEAST RECOMMENDATIONS

**Narrow row, drilled, or wide-row soybeans:** An in-crop application of this product will provide effective control of the initial stand of labeled weeds. For best results, an initial application of 32 fluid ounces per acre, on 3 to 6 inch weeds is recommended. Weeds will generally be 3 to 6 inches tall 2 to 3 weeks after planting.

#### Initial Treatment

Weed Height (inches)	Rate (fl oz/A)
3 to 6	32
6 to 12	48

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 16 to 32 fluid ounces per acre may be necessary to control late flushes of weeds.

#### Sequential Application (If Needed)

Weed Height (inches)	Rate (fl oz/A)
2 to 3	16
3 to 6	24
6 to 12	32

**Florida pusley, hemp sesbania and spurred anoda:** Apply 32 fluid ounces per acre to weeds 2 to 4 inches for the initial application. Apply 32 fluid ounces per acre when these weeds are 3 to 6 inches tall if a sequential application is necessary.

287

Momingglory, black night-shade, ground-cherry, and Pennsylvania smartweed: Apply 24 fluid ounces per acre on 1 to 3 inch weeds, 32 fluid ounces per acre on 3 to 6 inch weeds, or 48 fluid ounces per acre on 6 to 12 inch weeds for the initial application.

Some weeds, such as black nightshade, broadleaf signalgrass, Texas panicum, burcumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments must not exceed 96 fluid ounces per acre.

#### DELTA/MID-SOUTH RECOMMENDATIONS

Narrow row, drilled, or wide row soybeans: An in-crop application of this product will provide effective control of the initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds. For best results, an initial application of 32 fluid ounces per acre, on 2 to 4 inch weeds is recommended. Weeds will generally be 2 to 4 inches tall 2 to 3 weeks after planting.

##### Initial Treatment

Weed Height (inches)	Rate (fl oz/A)
2 to 4	32
5 to 12	48

##### Sequential Application (If Needed)

Weed Height (inches)	Rate (fl oz/A)
2 to 3	16
3 to 6	24
6 to 12	32

Hemp sesbania and spurred anoda: Apply a sequential treatment of 32 fluid ounces per acre on 3 to 6 inch weeds if necessary.

Some weeds, such as black night-shade, broadleaf signalgrass, Texas panicum, burcumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications.

#### PERENNIAL WEEDS RATE RECOMMENDATIONS

A 32 to 64 fluid ounces per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, maretail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed, and wirestem muhly.

For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with Roundup Original herbicide. For additional information on perennial weeds, see the "WEEDS CONTROLLED" section of the label booklet for Roundup Original herbicide. For some perennial species, repeat application may be required to eliminate crop competition throughout the growing season.

**NOTE:** Non-ionic Surfactant: Non-ionic surfactants which are labeled for use with postemergence herbicides may be used. When using additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient.

The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Read and carefully observe cautionary statements and other information appearing on the surfactant label.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Original herbicide before using. For over-the-top uses on Roundup Ready crop varieties, crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" soybean seed saved from previous year's production and replanted. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©2002 Monsanto Company  
St. Louis, Missouri 63167

21154A3-48

11/04/99

288

MONSANTO



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
PHONE (202) 783-2460  
FAX (202) 783-2468  
<http://www.monsanto.com>

January 29, 2002

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Roundup Original Herbicide (EPA Reg. No. 524-445).  
Submission of Final Printed Supplemental Label for  
Postemergence Applications to Corn with the Roundup Ready Gene

Dear Mr. Tompkins:

Monsanto is submitting for your files, three (3) copies of the final printed supplemental label for Roundup Original Herbicide (EPA Reg. No. 524-445, Print Plate No. 21154A3-51) for the above use. The minor revision to this supplemental is the removal of the expiration date. This serves as the basis for our distributor products as well.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Marsha Gray or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: M. Gray  
A. Kirk

289



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

287997

## Application for Pesticide - Section I

1. Company/Product Number 524-445	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Original Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Final printed label  
Print Plate No. 21154A3-51

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Marsha Gray		Title Registration Manager		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped)  2-90
2. Signature 		3. Title Registration Specialist			
4. Typed Name Debra Hinton		5. Date 1/29/2002			

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). (If not exempted by 40 CFR 152.81 (b) (4));
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

291

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ORIGINAL™ HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Original herbicide, container labels and this supplement.



EPA Reg. No. 524-445

Roundup Original and Roundup Ready are trademarks of Monsanto Technology LLC.

### FOR POSTEMERGENCE APPLICATIONS TO CORN WITH THE ROUNDUP READY® GENE

Keep out of reach of children.

**WARNING! AVISO!**

Si usted no entiende la etiqueta, busque a alguien para que se le explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, OTHER THAN CORN WITH THE ROUNDUP READY GENE, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Original™ herbicide for essential product performance information.

#### GENERAL INFORMATION

MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT ONLY ON CORN HYBRIDS DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.

- Applying this product to corn hybrids which are not designated as Roundup Ready will result in severe crop injury and yield loss.
- The Roundup Ready designation indicates that the corn contains a patented gene which provides tolerance to this herbicide. Information on Roundup Ready corn may be obtained from your seed supplier or Monsanto representative.

#### Application Instructions

This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Single in-crop applications of this product are not to exceed 1 quart per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 2 quarts per acre per growing season.

#### Maximum Yearly Rates Allowed

Preplant: Maximum amount of this product which can be applied prior to crop emergence is 5 quarts per acre.

292



**In-crop:** Maximum combined total of multiple in-crop applications from emergence through the V8 stage or 30 inches is 2 quarts per acre.

**Preharvest:** Maximum amount of this product that can be applied after maximum kernel fill is complete and the crop is physiologically mature (black layer formation) until 7 days before harvest is 1 quart per acre.

**Cropping Season:** Combined total per year for all applications may not exceed 8 quarts per acre.

When applied as directed, this product controls labeled annual grass and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. Applications should be made to actively growing weeds before they reach the maximum size listed in the "WEEDS CONTROLLED" section of the label booklet for Roundup Original herbicide. Refer to the "MIXING" section of the label booklet for proper use instructions.

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Bullet®, Micro-Tech® or Partner® herbicides. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion. The addition of other additives, including fertilizers and micro-nutrients are not recommended with this product since this may result in increased potential for crop injury.

Allow a minimum of 50 days between application of this product and harvest of corn forage and 7 days between application and harvest of corn grain. Allow a minimum of 10 days between in-crop applications of this product. There are no rotational crop restrictions following applications of this product.

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.**

**THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.**

**For ground applications:** Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select correct nozzles and spray pressure to avoid spraying a fine mist. Check for even distribution of spray droplets.

**For aerial applications:** Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart per acre. See "WEEDS CONTROLLED" section on this label. **AVOID DRIFT—DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

## Weed Control Recommendations

Apply 24 to 32 fluid ounces of Roundup Original herbicide per acre for control of labeled grasses and broadleaf weeds in conventional and no-till corn production systems. Refer to the label booklet for Roundup Original herbicide for rate recommendations for specific annual weeds. Roundup Original herbicide applied at up to 1 quart per acre will control or suppress the growth of perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpet creeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the "PERENNIAL WEED RATE TABLE" of the label booklet for Roundup Original herbicide.

## Preemergence Followed by Postemergence Weed Control Program

This product may be applied postemergence in-crop following any labeled preemergence herbicide application. The post application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. A single in-crop application of this product at the recommended rate will provide control of emerged weeds listed on the label. This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first.

## Postemergence Only Weed Control Program

This product may be applied alone as a postemergence in-crop application to provide control of emerged weeds listed on the label. The postemergence application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. If new flushes of weeds occur, a sequential application of this product at 24 to 32 fluid ounces per acre will control the labeled grasses and broadleaf weeds. This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage or until corn height reaches 30 inches (free standing), whichever comes first.

This product may be applied in tank mixture with a labeled rate of Harness®, Harness Xtra, Harness Xtra 5.6L, Micro-Tech, Bullet, Partner, Permit® or atrazine herbicides. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines—the more restrictive requirements apply. Tank mixtures with other products may result in increased potential for crop injury and/or weed antagonism. Refer to the table below for height limitation for tank mix partner.

Tank Mix Partner	Maximum Height Of Corn For Application
Harness Harness Xtra Harness Xtra 5.6L	11 inches
Bullet* Micro-Tech* Partner*	5 inches
Permit	24 inches
Atrazine	12 inches

\*Bullet, Micro-Tech and Partner are not registered for use as a postemergence application in Texas.

Bullet, Harness, Micro-Tech and Partner are registered trademarks of Monsanto Company. Permit is a trademark of, and used under license from, Nissan Chemical Industries, Ltd.

243

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Original herbicide before using. For over-the-top uses on Roundup Ready crop varieties, crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" seed saved

from the previous year's productions and replanted. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©2002 MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21154A3-51

11/4/1999

MONSANTO



MONSANTO COMPANY  
600 13TH STREET, N.W.  
SUITE 660  
WASHINGTON, D.C. 20005  
PHONE (202) 783-2460  
FAX (202) 783-2468  
<http://www.monsanto.com>

January 29, 2002

Office of Pesticide Programs (7504C)  
Document Processing Center (NOTIF)  
U.S. Environmental Protection Agency  
Crystal Mall #2, Room 266A  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Honcho Herbicide (EPA Reg. No. 524-445)  
Submission of Final Printed Supplemental Label for  
Postemergence Applications to Corn with the Roundup Ready® Gene

Dear Mr. Tompkins:

Monsanto is submitting for your files, three (3) copies of the final printed supplemental label for Honcho Herbicide (EPA Reg. No. 524-445, Print Plate No. 21152A3-10) for the above use. The minor revision to this supplemental is the removal of the expiration date.

*"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."*

If you have any questions regarding this submission, please feel free to contact me through Dr. Marsha Gray or directly at 314-694-9036.

Sincerely,

Debra Hinton  
Registration Specialist

cc: M. Gray  
A. Kirk

295



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number  
288001

### Application for Pesticide - Section I

1. Company/Product Number 524-445	2. EPA Product Manager Mr. James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Honcho Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 600 13th Street, N.W., Suite 660 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Final Printed Label  
Print Plate No. 21152A3-10

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
* Certification must be submitted				<input type="checkbox"/> Plastic	
If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container		<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Marsha Gray		Title Registration Manager		Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped)  290
2. Signature 		3. Title Registration Specialist			
4. Typed Name Debra Hinton		5. Date 1/29/2002			

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

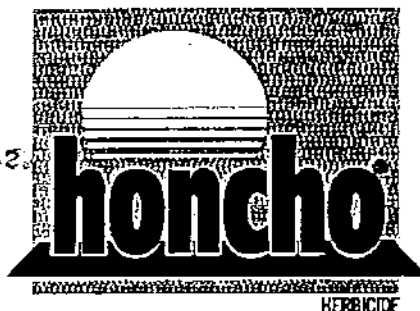
297

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR HONCHO® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Honcho herbicide, container labels and this supplement.

NOT REVIEWED  
In accordance with FR Notice 82-2,  
Grand and Draft Labeling Rated



EPA Reg. No. 524-445

Honcho and Roundup Ready are registered trademarks of Monsanto Technology LLC.

### FOR POSTEMERGENCE APPLICATIONS TO CORN WITH THE ROUNDUP READY® GENE

Keep out of reach of children.

**WARNING! AVISO!**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS) DESIRABLE PLANTS AND TREES, OTHER THAN CORN WITH THE ROUNDUP READY GENE, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Honcho® herbicide for essential product performance information.

#### GENERAL INFORMATION

MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT ONLY ON CORN HYBRIDS DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.

- Applying this product to corn hybrids which are not designated as Roundup Ready will result in severe crop injury and yield loss.

- The Roundup Ready designation indicates that the corn contains a patented gene which provides tolerance to this herbicide. Information on Roundup Ready corn may be obtained from your seed supplier or Monsanto representative.

#### Application Instructions

This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Single in-crop applications of this product are not to exceed 1 quart per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 2 quarts per acre per growing season.

#### Maximum Yearly Rates Allowed

**Preplant:** Maximum amount of this product which can be applied prior to crop emergence is 5 quarts per acre.

**In-crop:** Maximum combined total of multiple in-crop applications from emergence through the V8 stage or 30 inches is 2 quarts per acre.

**Preharvest:** Maximum amount of this product that can be applied after maximum kernel fill is complete and the crop is physiologically mature (black layer formation) until 7 days before harvest is 1 quart per acre.

**Cropping Season:** Combined total per year for all applications may not exceed 8 quarts per acre.

298

When applied as directed, this product controls labeled annual grasses and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. Applications should be made to actively growing weeds before they reach the maximum size listed in the "WEEDS CONTROLLED" section of the label booklet for Honcho herbicide. Refer to the "MIXING" section of the label booklet for proper use instructions.

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Bullet®, Micro-Tech® or Partner® herbicides. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion. The addition of other additives, including fertilizers and micro-nutrients are not recommended with this product since this may result in increased potential for crop injury.

Allow a minimum of 50 days between application of this product and harvest of corn forage and 7 days between application and harvest of corn grain. Allow a minimum of 10 days between in-crop applications of this product. There are no rotational crop restrictions following applications of this product.

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.**

**THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.**

**For ground applications:** Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select correct nozzles and spray pressure to avoid spraying a fine mist. Check for even distribution of spray droplets.

**For aerial applications:** Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart per acre. See "WEEDS CONTROLLED" section on this label. **AVOID DRIFT—DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

#### Weed Control Recommendations

Apply 24 to 32 fluid ounces of Honcho herbicide per acre for control of labeled grasses and broadleaf weeds in conventional and no-till corn production systems. Refer to the label booklet for Honcho herbicide for rate recommendations for specific annual weeds. Honcho herbicide applied at up to 1 quart per acre will control or suppress the growth of perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpet creeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the "PERENNIAL WEED RATE TABLE" of the label booklet for Honcho herbicide.

**Preemergence followed by Postemergence Weed Control Program:** This product may be applied postemergence in-crop following any labeled preemergence herbicide application. The post application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. A single in-crop application of this product at the recommended rate will provide control of emerged weeds listed on the label. This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first.

**Postemergence Only Weed Control Program:** This product may be applied alone as a postemergence in-crop application to provide control of emerged weeds listed on the label. The postemergence application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. If new flushes of weeds occur, a sequential application of this product at 24 to 32 fluid ounces per acre will control the labeled grasses and broadleaf weeds. This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage or until corn height reaches 30 inches (free standing), whichever comes first.

This product may be applied in tank mixture with a labeled rate of Harness®, Harness Xtra, Harness Xtra 5.6L, Micro-Tech, Bullet, Partner, Permit® or atrazine. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines - the more restrictive requirements apply. Tank mixtures with other products may result in increased potential for crop injury and/or weed antagonism. Refer to the table below for height limitation for tank mix partner.

Tank-Mix Partner	Maximum Height Of Corn For Application
Harness Harness Xtra Harness Xtra 5.6L	11 inches
Bullet* Micro-Tech* Partner*	5 inches
Permit	24 inches
Atrazine	12 inches

\*Bullet, Micro-Tech and Partner are not registered for use as a postemergence application in Texas.

Bullet, Harness, Micro-Tech and Partner are registered trademarks of Monsanto Technology LLC. Permit is a trademark of, and used under license from, Nissan Chemical Industries, Ltd.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Honcho herbicide before using. For over-the-top uses on Roundup Ready crop varieties, crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" seed saved from the previous year's productions and replanted. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©2002 MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

MONSANTO



MONSANTO COMPANY  
600 11TH STREET, N.W.  
SUITE 600  
WASHINGTON, D.C. 20005  
PHONE (202) 783-7400  
FAX (202) 783-7408  
<http://www.monsanto.com>

January 8, 2002

**Hand Delivered**

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504C)  
U.S. Environmental Protection Agency  
Room 266A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader (25)

Subject: Revised Section F  
EPA Pesticide Petition 8F3673  
New Supplemental Label for Roundup Ultra Herbicide (EPA Reg. No. 524-475) for Postemergence Applications to Corn with the Roundup Ready Gene (including the use of Drop Nozzles)

Dear Mr. Tompkins:

In response to the Agency letter received October 31, 2001, Monsanto herein submits a revised Section F for the establishment of glyphosate tolerances for residues of glyphosate in "corn, field, forage" at 6 ppm, "aspirated grain fractions" at 100 ppm, and to delete the existing glyphosate tolerance for "soybean, aspirated grain fractions" at 50 ppm.

Based on the recent preliminary review of residue data submitted to support applications in Roundup Ready corn including the use of drop-nozzles (MRID 45077401), the Agency determined that the current tolerance on corn, field, forage at 3.0 ppm is not adequate to support this use and must be increased to 6.0 ppm. Monsanto concurs with the Agency's review and the enclosed Section F proposes the increased tolerance. In addition, submitted here is a revised supplemental label for Agency review and approval for Roundup Ultra herbicide (EPA Reg. No. 524-475) for uses in corn with the Roundup Ready gene. This label has been changed from that originally included with the data submission in March, 2000 to incorporate the application rates, timings (and the use of drop nozzles) afforded from all representative treatments in the submitted residue data. The original supplemental label intentionally excluded any directions-for-use that would have been supported by the application rates described in Treatment 4 of the residue

300



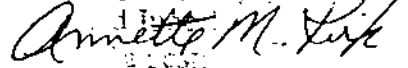
V. field, forage:

If establishment of the tolerances proposed in the enclosed revised Section F are to be assigned to the previous petition, PP 8F3673, which seems reasonable, the appropriate petition filing fee was paid at the time of that submission. Therefore, an additional fee of \$2050.00 (\$1025.00 per each proposed tolerance) is due at this time to cover the tolerances for aspirated grain fractions and corn forage. A check in the amount of \$2050.00 has been sent to EPA Headquarters Accounting Operations Branch in Pittsburgh, PA and a copy of that check is enclosed here.

If you have any questions regarding this submission please feel free to contact Dr. Marsha C. Gray at 202-383-3878 or me directly at 314-694-8890 or by email at [annette.m.kirk@monsanto.com](mailto:annette.m.kirk@monsanto.com).

Sincerely,

Agency



Annette M. Kirk  
Registration Manager

cc: M.C. Gray

301



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OFF 800555-6000

287930

### Application for Pesticide - Section I

Company Product Number 524-475	EPA Product Name Roundup Ultra Herbicide	Company Product (Name) Roundup Ultra Herbicide	PMI 25	<input type="checkbox"/> General <input type="checkbox"/> Restricted
Name and Address of Applicant (Include ZIP Code) Roundup Company 500 14th Street, N.W., Suite 660 Washington, DC 20005			EPA Reg. No.	
<input type="checkbox"/> Check if this is a new address			Product Name	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> First petition for registration
<input type="checkbox"/> Submission in response to Agency letter dated _____	<input type="checkbox"/> Renewal of registration
<input type="checkbox"/> Reclassification - Explain below.	<input type="checkbox"/> Other

Explanation: Use additional page(s) if necessary. (For section I and Section II)

New supplemental label for Roundup Ultra Herbicide  
Revised Section F  
EPA Pesticide Petition 8F3673

### Section - III

Material This Product Will Be Packaged In:			
Assistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Package <input type="checkbox"/> Yes <input type="checkbox"/> No	Other (Specify)
Certification must be submitted	If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.
Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	
Carrier in Which Label is Affixed to Product		<input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled	

### Section - IV

Contact Point (Complete items directly below for identification of individual to be contacted if necessary)	
Dr. Marsha Gray	Title Registration Manager

### Certification

I certify that the statements I have made on this form and all attachments are true and correct. I acknowledge that any knowingly false or misleading statement may be punished both under applicable law.

Signature <i>Annette M. Kirk</i>	3. Title Registration Manager
Typed Name Annette M. Kirk	5. Date January 3, 1992

302

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch (0272-05), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-2);
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling:** Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup. When proposed label is prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels should be on 8.5 x 11 inch paper for submission.

**Submission of Data:** Data submitted in support of this application must be submitted with the application.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before submitting this application. The type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in response to a registration action, Sections I, II, and IV must be completed by the applicant. For applications submitted in connection with renewal or reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A - Check the appropriate action for which you are submitting this form.**

**SECTION I - This section must be completed, as applicable, for all registration actions.**

1. **Company/Product Number:** Insert your Company Number, if one has been assigned to you. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager:** If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification:** Specify the proposed classification of this product.
4. **Product Name:** Enter the complete product name of this pesticide as it will appear on the label. This name must be specific to the product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant:** The name of the firm or person and address shown on your application is the person or persons to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review:** FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar or identical to your product. The product must be similar or identical in both formulation and labeled use.

**SECTION II - This section must be completed for all applications submitted to amend the registration of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.**

1. **Subject of submission:** Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)", "amend the Confidential Statement of Formula by...", "reregistration submission", "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information) - This Section must be completed for all applications for registration or applicable amendments.**

1. **Type of Packaging:** Check the appropriate block if your product will be packaged in the indicated packaging type. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container:** Indicate type of container in which product will be marketed.
3. **Location of Net Contents:** Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container:** Specify the net contents of all retail containers for your product.
5. **Location of Use Directions:** Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product:** Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me too" reregistration, etc.**

- 1.5. Self-explanatory.
6. EPA Use Only.

303

**SECTION F**  
**(REVISED)**

**PROPOSED TOLERANCES**

The residue data supporting the petition, PP 8F3673, and other residue data for grain crops, including residue processing data for sorghum (MRID 43342002), indicate that glyphosate residues in aspirated grain fractions will not exceed 100 ppm when glyphosate herbicides are applied preharvest to grain crops, including soybean, at the application rates used in the U.S.

The residue data submitted on corn forage (MRID 45077401) indicate that the present tolerance of 3.0 ppm will be exceed when glyphosate herbicides are applied in postemergence applications to corn with the Roundup Ready<sup>®</sup> gene according to the proposed US label.

Based on these residue data, Monsanto requests that 40 CFR Section 180.364 be amended to establish the following tolerances:

180.364 (a) *General.* ...

Commodity	Parts per million
Aspirated grain fractions.....	100
Corn, field, forage.....	6.0

*Note: With the establishment of the above listed tolerances, the following existing tolerance would become out-dated and thus, Monsanto requests that 40 CFR Section 180.364 be amended to delete:*

Soybean, aspirated grain fractions.....50

304

JUN 21 1996



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 19 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Grain Sorghum)  
EPA Registration No. 524-445  
EPA Pesticide Petition No. 8F3672  
Your Letter Dated August 15, 1994

This refers to EPA Pesticide Petition No. 8F3672 which proposes the establishment of tolerances for residues of glyphosate (N-(phosphonomethyl) glycine) resulting from the application of the isopropylamine salt of glyphosate and/or the monoammonium salt of glyphosate in or on the raw agricultural commodities grain sorghum at 15 parts per million (ppm), grain sorghum fodder at 40 ppm, and grain sorghum aspirated grain fractions at 100 ppm, and the accompanying registration request.

The scientific review and evaluation of the information submitted above have been completed. The following are a summary of our conclusions and/or comments. Refer to the enclosed copy of the review for detailed discussion.

1. The sorghum field trial residue data are acceptable. However, according to the recent guideline on field trials, the data are inadequate in quantity and location since the total trials numbers 8 in regions IV (1), V (4), VI (1), VII (1), and VIII (1). A minimum of 12 field trials in regions II (1), IV (2), V (4), VI (2), VIII (1) and VIII (3) are needed in support of the tolerance for sorghum and its commodities. We are willing to allow a time-limited/conditional registration until the trials are completed.

2. An individual tolerance for "grain sorghum" aspirated grain fractions is not needed since aspirated grain fractions are normally a composite of more than one grain, typically corn, wheat, sorghum, and/or soybeans. If a pesticide is issued on several crops, such as the case with glyphosate, then the RAC with the highest residues in dust will be used to establish the aspirated grain fractions tolerance. Since a 200 ppm tolerance is pending as a result of the use on corn (Refer to correspondence concerning PPNo. 8F3673) a revised Section F is needed the deleting the proposed 100 ppm tolerance for sorghum grain aspirated grain fractions.

305




Recycled/Recyclable  
Printed with Soy/Canola Ink on paper that  
contains at least 50% recycled fiber

3. Any residues occurring in milk, meat, fat, and eggs are expected to be covered by the recent tolerances established on kidney at 4.0 ppm.

4. The available toxicology data support these tolerances.

Further action will await submission of revised Section F as discussed in item 2 above and agreement to perform additional trials in item 1.

Sincerely,

A handwritten signature in dark ink, appearing to read "Robert J. Taylor". The signature is fluid and cursive, with the first name "Robert" being more prominent and the last name "Taylor" following in a similar style.

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

April 17, 1996

*Company*

MEMORANDUM

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

SUBJECT: PP# 8F03672, EPA Reg. No. 524-445. Glyphosate (417300; 103601) in or on Sorghum. Petition Amendment Dated August 14, 1994. MRID Nos. 433420-00, 433420-01, 433420-02. D207119, D207121. Case Nos. 002698, 280708. CB Nos. 14303, 14304.

FROM: Stephanie H. Willett, Chemist *SHW*  
Tolerance Petition Section II  
Chemistry Branch I-Tolerance Support  
Health Effects Division (7509C)

THRU: Edward Zager, Acting Branch Chief  
Chemistry Branch I-Tolerance Support  
Health Effects Division (7509C) *Edward Zager*

TO: Robert Taylor, Product Manager  
Vickie Walters, Team 25 Reviewer  
Registration Division (7505C)  
and  
Debbie McCall, Acting Section Head  
Registration Section, RCAB/HED (7509C)

Background

Monsanto previously submitted this petition requesting tolerances for residues of the herbicide glyphosate (N-(phosphonomethyl)-glycine) in/on sorghum grain, fodder, forage, and milled fractions (excluding grits) at 5, 20, 20 and 25 ppm, respectively. The petition was initially reviewed by CBTS in 1988 (see 11/18/88 memo of S. Willett), and only a revised section F and grain dust data were needed as of the last review of CBTS (see 9/5/90 review of S. Willett). However, it was subsequently learned that the sorghum residue data were generated by Craven Labs, and therefore its validity was suspect. CBRS determined that new data were needed (see 10/21/91 and 4/26/93 memos of M. Metzger). This submission contains the new data, requests an increased use rate and tolerances only for grain sorghum, fodder and grain sorghum aspirated grain fractions of 15, 40, and 100 ppm, respectively. Tolerances for forage are no longer proposed since in the proposed preharvest use the pesticide is applied one week prior to harvest, which is after the forage stage of the sorghum.

307



Recycled/Recyclable  
Printed with Soy/Canola Ink on paper that  
contains at least 50% recycled fiber

Tolerances for glyphosate and its major metabolite AMPA (aminomethyl phosphonic acid), are currently established for numerous commodities, processed foods and feeds under 40 CFR § 180.364, 185.3500 and 86.3500, respectively. The Glyphosate Reregistration Eligibility Decision (RED) document was issued in September 1993. In that document, it was concluded that dietary risk resulting from the (then) established tolerances ( $\geq 85$ ) and registered uses of pesticide products containing the isopropylamine and sodium salts of glyphosate was minimal.

#### Conclusions Resulting From Review of This Submission

All residue chemistry residue issues have been adequately addressed with the exception of the following:

- o The sorghum field trial residue data are acceptable. However, according to the most recent guidance on the conduct of residue field trials issued in 1994, the data are inadequate in quantity and location since the total trials numbered only eight, with the following regional distribution: IV (1), V (4), VI (1), VII (1), and VIII (1). A minimum of 12 field trials in regions II (1), IV (2), V (4), VI (2), VII (1), and VIII (3) are needed in support of a tolerance on sorghum and its related commodities. Since the field trial data were generated in 1992, prior to the issuance of our June 1994 guidance, CBTS would have no objection to the issuance of a conditional registration until the additional field trials are conducted.
- o An individual tolerance for "grain sorghum" aspirated grain fractions is not needed since aspirated grain fractions are normally a composite of more than one grain, typically corn, wheat, sorghum and/or soybeans. If a pesticide is used on several crops, such as is the case with glyphosate, then the RAC with the highest residues in dust will be used to establish the aspirated grain fractions tolerance. Since a 200 ppm tolerance is currently pending as a result of use on corn, and has been determined to be acceptable at least on an interim basis (see 3/16/96 memo of W. Cutchin, PP No. 8F3673), the petitioner should submit a revised Section F deleting the proposed 100 ppm tolerance for sorghum grain aspirated grain fractions.
- o Glyphosate residues are expected to be nondetectable in milk, meat, fat and eggs at animal exposure levels of up to 400 ppm (see 3/16/96 memo of W. Cutchin, PP No. 8F3673), and therefore the proposed use on sorghum does not cause concern for the possibility of unacceptable secondary residue levels in these commodities (animal dietary burden  $\leq 66$  ppm). The presently established 0.5 ppm glyphosate tolerance for kidney and liver is based on an animal exposure level of up to 40 ppm (see also

308



3/16/96 memo of W. Cutchin). Although the liver tolerance does not need to be increased for the proposed uses on corn and alfalfa, the kidney tolerance does need to be raised (see W. Cutchin memo, PP No. 8F3673). Glyphosate tolerances for kidney of cattle, goats, hogs, horses, poultry, and sheep are in the process of being raised to 4 ppm as a result of a preharvest use of glyphosate on alfalfa where exposure could be up to 157 ppm (PP No. 4F4312, M. Rodriguez, 1/11/95). The establishment of these higher tolerances for kidney will be necessary before CBTS can recommend for the establishment of the proposed tolerance on grain sorghum.

#### Recommendations

Upon submission of a revised Section F deleting the proposed tolerance for grain sorghum aspirated grain fractions, and the establishment of the revised tolerance for animal kidney as required in support of pending uses on alfalfa, CBTS could recommend for the establishment of the proposed tolerances on grain sorghum at 15 ppm and sorghum fodder at 40 ppm in connection with a time limited/conditional registration for Roundup herbicide. Additional field trial data as specified in the conclusions section above are needed prior to a full registration.

**NOTE TO RCAB:** A DRES run can be initiated using 15 ppm as the tolerance for sorghum grain and a 4 ppm tolerance for the kidney of cattle, goats, hogs, horses and sheep.

#### Detailed Considerations

Since the petition has been pending for over eight years, and the regulatory status and internal policies have changed since the initial filing of the petition, a brief reassessment of all residue chemistry data requirements is appropriate.

#### Proposed Use

For control of several annual and perennial weeds, ROUNDUP<sup>®</sup> herbicide (isopropylamine sodium salt; EPA Reg. No. 524-445; 4 lb ai/gallon EUP; 3 lb acid equivalents/gallon EUP) is to be applied at least 7 days prior to harvest of grain sorghum (milo). The maximum application rate is 2 quarts Roundup/acre (2 lb ai/acre; 1.5 lb ae/acre).

This proposed use differs from the initial proposed use. The previously proposed use specified an application rate of 1 quart of end use product per acre, which was ROUNDUP [EPA Reg No. 524-308AA] containing 3 lb ai/gal. The application rate was therefore 0.75 lb ai/A, to be applied at least 7 days prior to harvest.

309

Plant and Animal Metabolism

The HED Metabolism Committee has decided that only glyphosate parent is to be regulated in plant and animal commodities, and that AMPA is not of toxicological concern regardless of its level in food (Memo, R. Perfetti 3/17/94).

Analytical Methodology

Adequate enforcement methods are available for analysis of residues of glyphosate in or on plant commodities. These methods include GLC (PAM II; the limit of detection is 0.05 ppm), and HPLC with fluorometric detection. Use of the GLC method is being discouraged due to lengthiness of the procedure. The HPLC method has undergone successful Agency validation and was recommended for inclusion in PAM II; the limit of detection is 0.0005 ppm. A GC/MS method for glyphosate in crops has also been validated by ACL (Memo, G. Kramer 3/21/95). This method has not yet been submitted for publication in PAM-II.

Residue Data

(MRID No. 433420-01)

Roundup<sup>®</sup> herbicide (41% ai) was applied using ground equipment as a single preharvest treatment at eight locations in Arkansas (1), Kansas (2), Missouri (1), Nebraska (1) Oklahoma (1), South Dakota (1), and Texas (1) in 1992. The application rates were 0.74 (Texas only) to 0.75 (0.5X) lb ai acid equivalents/acre, and 1.48 (Texas only) to 1.50 (1X) lb ae/acre, and the spray volume ranged from 10 to 20 gal/acre. Six to eight days after application of glyphosate, grain and fodder samples were harvested from control, 0.5 X, and 1X plots, and stored frozen until analyzed. The remaining milo stalk and foliage was allowed to field dry to produce milo hay that was then harvested and frozen for analysis. Hay samples were collected 10 to 15 days after the application of glyphosate. All samples were analyzed within 14 months. Storage stability data have been reviewed which shows that glyphosate is stable in a variety of crop matrices for up to 36 months of frozen storage at -18 °C (Memo, C. Eiden 11/17/94).

Control and 1X samples were subsequently analyzed to determine residues of glyphosate using an HPLC/fluorescence detection method, which is the preferred method (see also 2/96 memo of G. Kramer). Briefly, the method involves extraction of glyphosate and AMPA with dilute hydrochloric acid (HCl). The extract solution was eluted through a Chelex<sup>®</sup> 100 (Fe III) resin, and the retained glyphosate and AMPA iron salts are subsequently eluted with 6N HCl. The isolated glyphosate and AMPA iron salts are then applied to a strong anion exchange resin and eluted with 6N HCl to remove the iron and obtain free acids of glyphosate and AMPA. After

3/0

concentration to dryness (to remove HCl) the samples are redissolved in a specified volume of water, and analyzed by HPLC using o-phthalaldehyde post column derivation.

To validate the method, control grain samples were fortified with glyphosate at levels ranging from 0.05 to 3.0 ppm and analyzed concurrently with field samples using the methodology described above. Glyphosate recoveries ranged from 68 to 104% (avg 87%). When fodder check samples were fortified over a range of 0.05 to 20 ppm with glyphosate, recoveries ranged from 75 to 101% (avg 84%) for glyphosate. When hay samples were fortified with glyphosate over a range of 0.05 to 10.0 ppm, glyphosate recoveries ranged from 58 to 102% (avg. 84%). Additionally, recoveries from laboratory fortified samples spiked with glyphosate over a range of 0.05 to 3.0 ppm were analyzed concurrently with field treated samples. Average recoveries grain, fodder, and hay were acceptable ( $\geq 70\%$ ).

Table 1 summarizes the results of the analyses of sorghum grain, fodder, and hay. Results reported here are the averages of the analyses of duplicate samples (see pages 16 to 18 of report).

TABLE 1: MEAN RESIDUE LEVELS OF GLYPHOSATE FOUND IN SORGHUM (MILO) GRAIN, FODDER, AND HAY FOLLOWING PREHARVEST APPLICATION OF ROUNDUP HERBICIDE

LOCATION	PHI GRAIN, FODDER, HAY	PPM GLYPHOSATE GRAIN	PPM GLYPHOSATE FODDER	PPM GLYPHOSATE HAY
ARKANSAS	8, 8, 12	1.7	15.8	17.5
KANSAS-SITE A	6, 6, 11	5.3	33.1	14.7
KANSAS-SITE B	8, 8, 11	12.5	29.3	37.0
MISSOURI	7, 7, 15	6.0	27.9	15.4
NEBRASKA	8, 8, 12	1.8	7.0	4.3
OKLAHOMA	7, 7, 14	6.3	29.5	36.1
SOUTH DAKOTA	7, 7, 10	13.5	2.9	6.4
TEXAS	8, 8, 11	1.4	8.2	3.1

Supporting data (e.g. protocols, storage and handling, chromatograms) were contained in the report. Based on these data, the registrant is proposing a 15 ppm tolerance for sorghum grain, and a 40 ppm tolerance for fodder. Tolerances for forage are no longer proposed since in the proposed preharvest use the pesticide is applied one week prior to harvest, which is after the forage stage of the sorghum (cf. pending use on corn, PP No. 8F3673). Sorghum hay is not considered to be a raw agricultural commodity.

CBTS concludes that the reported data are acceptable. However, according the most recent guidance on the conduct of residue field trials issued in 1994, the data are inadequate in quantity and

location since the total trials numbered only eight, with the following regional distribution: IV (1), V (4), VI (1), VII (1), and VIII (1). A minimum of 12 field trials in regions II (1), IV (2), V (4), VI (2), VII (1), and VIII (3) are needed in support of a tolerance on sorghum and its related commodities.<sup>1</sup> Since the field trial data were generated in 1992, prior to the issuance of our June 1994 guidance, CBTS would have no objection to the issuance of a conditional registration until the additional field trials are conducted.

It is noted that glyphosate tolerances for corn and its related commodities are pending, and tolerances for wheat and its related commodities have already been established. Since sorghum, corn and wheat are all commodities in the cereal grain crop group, and the registered and pending uses all involve a similar preharvest use with application rates of 1 to 3 quarts of various formulations of Roundup, it may be appropriate to pursue a cereal grains crop group tolerance.

Processing Study Data  
(MRID No. 433420-Z2)

Sorghum from test sites in Kansas (A) and Texas (see table 1 above) was processed using simulated industrial practices for dry and wet milling of sorghum. Samples of clean grain, grain dust, bran, grits and flour were analyzed using methodology described above after being stored frozen for 626 days (approximately 21 months) or less. Storage stability data have been reviewed which show that glyphosate is stable in a variety of crop matrices for up to 36 months of frozen storage at -18 °C (Memo, C. Eiden 11/17/94).

Average glyphosate residues in grain from the Kansas site were determined to be 4.47 ppm prior to processing, and average glyphosate residues in grain from the Texas site were determined to be 1.08 ppm prior to processing. The average residue levels of glyphosate found in milo bran were 17.8 ppm at the Kansas location, and 6.38 ppm at the Texas location. Therefore, the resulting concentration factors for glyphosate in milo bran were 3.99 and 5.92 for the Kansas and Texas locations, respectively. The average residue levels in glyphosate in milo grain dust were 28.2 ppm at the Kansas location and 3.8 ppm at the Texas location. Therefore the resulting concentration factors for grain dust were 6.31 and 3.52 for the Kansas and Texas locations, respectively. Glyphosate residues did not concentrate in milo clean grain, flour, germ, starch or grits. Supporting data (e.g. protocols, storage and handling, chromatograms) were contained in the report. Based on these data, the registrant is proposing a 100 ppm feed additive

<sup>1</sup>See Pesticide Reregistration Rejection Rate Analysis Residue Chemistry: Followup Guidance, EPA-738-K-94-001, June 1994.

tolerance for grain sorghum aspirated grain fractions.. Since no other food and feed items are now associated with grain sorghum, the previously proposed FAT of 25 ppm for sorghum milling fractions is no longer needed and has been deleted from the Section F by the registrant (see Table II 1995).

CBTS concludes that the sorghum processing study is acceptable. Based on an average concentration factor of 5X observed from the processing of incurred residue samples from the Kansas and Texas field trials, and considering the highest residue field trial (HAFT) residue value of 13.5 ppm (see table 1 above), a 100 ppm tolerance for glyphosate in aspirated grain fractions resulting from the proposed use on sorghum would be adequate. However, the petitioner is advised that an individual tolerance for "grain sorghum" aspirated grain fractions is not needed since aspirated grain fractions are normally a composite of more than one grain, typically corn, wheat, sorghum and/or soybeans. If a pesticide is used on several crops, such as is the case with glyphosate, then the RAC with the highest residues in dust will be used to establish the aspirated grain fractions tolerance.<sup>2</sup> Since a 200 ppm tolerance is currently pending as a result of use on corn, and has been determined to be acceptable at least on an interim basis (see 3/16/96 memo of W. Cutchin, PP No. 8F3673), the petitioner should submit a revised Section F deleting the proposed 100 ppm tolerance for sorghum grain aspirated grain fractions.

#### Secondary Residues in Meat, Milk, Poultry and Eggs

Sorghum grain, fodder and aspirated grain fractions may comprise up to 40%, 25% and 20%, respectively, of the cattle diet. Assuming a worst case diet [55% grain (40% sorghum grain and 15% corn grain), 25% sorghum fodder and 20% aspirated grain fractions] for beef cattle, the maximum exposure to cattle is estimated to be 66 ppm. This is assuming that tolerance levels of 15 ppm and 40 ppm are present in grain and fodder, respectively, and incorporates the pending glyphosate tolerances of 1 ppm and 200 ppm, respectively, on field corn grain and aspirated grain fractions. Sorghum grain may comprise up to 80% of the diet of poultry (dietary burden = 14 ppm), and up to 90% of the diet of swine (dietary burden = 16 ppm).

Glyphosate residues are expected to be nondetectable in milk, meat, fat and eggs at exposure levels of up to 400 ppm (see 3/16/96 memo of W. Cutchin, PP No. 8F3673), and therefore the proposed use on sorghum does not cause concern for the possibility of unacceptable secondary residue levels in these commodities. The presently established 0.5 ppm glyphosate tolerance for kidney and liver is based on an animal exposure level of up to 40 ppm (see also 3/16/96

<sup>2</sup>See Pesticide Reregistration Rejection Rate Analysis Residue Chemistry: Followup Guidance, EPA 738-K-94-001, June 1994.

memo of W. Cutchin). Glyphosate tolerances for kidney of cattle, goats, hogs, horses, poultry, and sheep are in the process of being raised to 4 ppm as a result of a preharvest use of glyphosate on alfalfa where exposure could be up to 157 ppm (PP No. 4F4312, M. Rodriguez, 1/11/95). Although the liver tolerance does not need to be increased for the proposed uses on corn and alfalfa, the kidney tolerance does need to be raised (see 4/9/96 memo of W. Cutchin, PP No. 8F3673). The establishment of these higher tolerances for kidney will be necessary before CBTS can recommend for the establishment of the proposed tolerance on grain sorghum.

cc: RE, Circ, S. Willett, E. Haeberer, PP No. 8F3672

7509C:CM2:RM804C:305-6380:SHWillett:shw-4/8/96

RDI: E. Haeberer, 4/9/96; R. Loranger, 4/16/96; E. Zager, 4/17/96

**Monsanto Company**

NON-NEGOTIABLE

1800130123

Accounts Payable Inquiries 314-694-2099, 800 N. Lindbergh, St. Louis, MO 63167

01/03/2002

Vendor Number: 208555

Invoice Number	Date Due	Gross Amount	Discount/Withd	Net Am	Comments
HINTON010202	01/02/2002	2,050.00	0.00	2,050.00	TOLERANCE FEE
Sum Total		2,050.00	0.00	2,050.00	

PREMITTANCE ADVICE: The attached check is full payment of invoice and other charges listed.

2177-1105 0222 Mono North America ©2000. All rights reserved.  
Processure Seal Patents 3,918,128, 022

CH-275(1/00)

**MONSANTO****Monsanto Company**Accounts Payable Inquiries 314-694-2099  
800 N. Lindbergh, St. Louis, MO 63167

1800130123

DATE 01/03/2002

VOID IF NOT CASHED WITHIN SIX MONTHS

PAY TO THE  
ORDER OFENVIRONMENTAL PROTECTION  
AGENCY  
PO Box 360277M  
PITTSBURGH, PA 15251  
USA

THIS AMOUNT TWO THOUSAND FIFTY

PAYABLE AT CITIBANK DELAWARE  
ONE PENNS WAY  
NEW CASTLE, DE 19720
 BY *David R. Crum*  
 BY *David R. Crum*  
 Authorized Signatory

318

⑈ 1800130123 ⑆ ⑆ 031100209 ⑆

38545751 ⑈

